HT-CT180
SA-CT180

SERVICE MANUAL

Ver. 1.0 2015.02

US Model
Canadian Model
AEP Model
UK Model
Australian Model

- All of the units included in the HT-CT180 (SA-CT180/SA-WCT180/Remote control) are required to confirming operation of SA-CT180. Check in advance that you have all of the units.



Photo: SA-CT180

Note:
Be sure to keep your PC used for service and checking of this unit always updated with the latest version of your anti-virus software.
In case a virus affected unit was found during service, contact your Service Headquarters.

COMPONENT MODEL NAME

	HT-CT180
Bar Speaker (Active Speaker System)	SA-CT180
Subwoofer (Active Subwoofer)	SA-WCT180

- Please refer to service manual separately issued for Subwoofer.

SPECIFICATIONS

Amplifier section

U.S. models:
POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
(FTC)
Front L + Front R:
With 4 ohms loads, both channels driven, from 200 Hz - 20,000 Hz; rated 13 Watts per channel minimum RMS power, with no more than 1% total harmonic distortion from 250 milliwatts to rated output.
POWER OUTPUT (reference)
Front L/Front R speaker:
25 Watts (per channel at 4 ohms, 1 kHz)

Except US models:
POWER OUTPUT (rated)
Front L + Front R:
13 W + 13 W (at 4 ohms, 1 kHz, 1% THD)
POWER OUTPUT (reference)
Front L/Front R speaker:
25 Watts (per channel at 4 ohms, 1 kHz)

Inputs
OPTICAL
ANALOG

BLUETOOTH section
Communication system
BLUETOOTH Specification version 4.0
Output
BLUETOOTH Specification Power Class 2
Maximum communication range
Line of sight approx. 10 m (33 ft) [1)]
Maximum number of devices to be registered
8 devices
Frequency band
2.4 GHz band (2.4000 GHz - 2.4835 GHz)
Modulation method
FHSS (Freq Hopping Spread Spectrum)
Compatible BLUETOOTH profiles [2)]
A2DP (Advanced Audio Distribution Profile)
Supported Codecs [3)]
SBC [4)]
Transmission range (A2DP)
20 Hz - 20,000 Hz (Sampling frequency 44.1 kHz)

[1)] The actual range will vary depending on factors such as obstacles between devices, magnetic fields around a microwave oven, static electricity, cordless phone, reception sensitivity, operating system, software application, etc.
[2)] BLUETOOTH standard profiles indicate the purpose of BLUETOOTH communication between devices.
[3)] Codec: Audio signal compression and conversion format
[4)] Subband Codec

Speakers

Front L/Front R speaker section
Speaker system
2-way speaker system, Acoustic suspension
Speaker
Tweeter: 14 mm - 25 mm (9/16 in - 1 in) balance dome type
Woofer: 40 mm × 120 mm (1 5/8 in × 4 3/4 in) cone type

General
Power requirements
120 V AC, 60 Hz (US and Canadian models)
220 V - 240 V AC, 50 Hz/60 Hz (AEP, UK and Australian models)
Power consumption
On: 17 W
Standby mode: 0.5 W or less
BLUETOOTH Standby mode: 3 W or less
Dimensions (approx.) (w/h/d)
901 mm × 52 mm × 84 mm (35 1/2 in × 2 1/8 in × 3 3/8 in)
Mass (approx.)
2 kg (4 lb 7 oz)

Wireless transmitter

Frequency band
2.4 GHz band (2.404 GHz - 2.476 GHz)
Modulation method
GFSK

Supplied accessories
Remote control (1)
R03 (size AAA) batteries (2)
Optical digital cable (1)
Speaker pads for the subwoofer (4)

Design and specifications are subject to change without notice.

HT-CT180
SOUND BAR
SA-CT180
ACTIVE SPEAKER SYSTEM

9-896-127-01
2015B33-1

Sony Corporation
Published by Sony Techno Create Corporation

SONY®

Copyrights and Trademarks

This system incorporates Dolby* Digital Surround System.

* Manufactured under license from Dolby Laboratories.
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The BLUETOOTH® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Sony Corporation is under license.

The N Mark is a trademark or registered trademark of NFC Forum, Inc. in the United States and in other countries.

Android™ is a trademark of Google Inc.

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SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

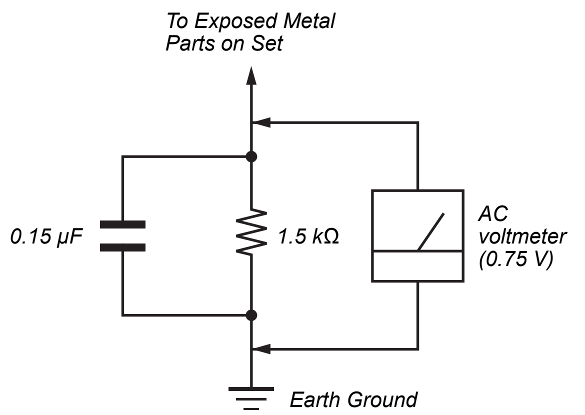


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

TABLE OF CONTENTS

SECTION 1
SERVICING NOTES

The SERVICING NOTES contains important information for servicing. Be sure to read this section before repairing the unit.

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(**Caution:** Some printed circuit boards may not come printed with the lead free mark due to their particular size)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350 °C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

ADVANCE PREPARATION WHEN CONFIRMING OPERATION

All of the units included in the HT-CT180 (SA-CT180/SA-WCT180/Remote control) are required to confirming operation of SA-CT180. Check in advance that you have all of the units.

DESTINATION ABBREVIATIONS

The following abbreviations for model destinations are used in this service manual.

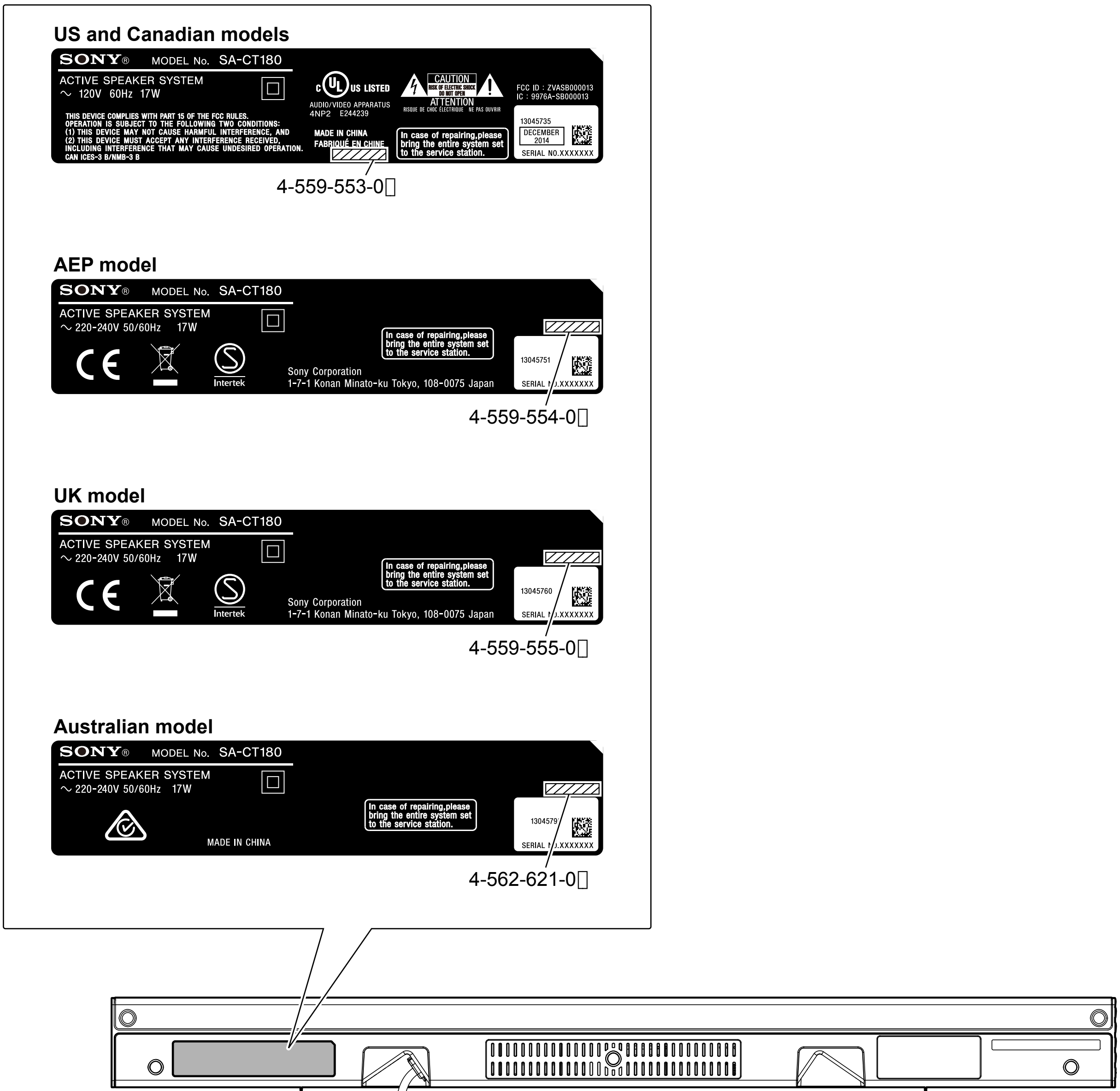
- Abbreviations
  AUS : Australian model
  CND : Canadian model

MODEL IDENTIFICATION

Distinguish by Part No. on the bottom side of a main unit.

Note: The printed contents of following figure model number label may be different from the model number label of a main unit.

MODEL NUMBER LABEL



– Bottom view –

ABOUT PARTS REPAIR OF EACH BOARDS

When each boards installed in this unit are defective, individual electrical parts that the mount is done cannot be replaced. When each boards are defective, replace the mounted board or the whole parts including an applicable board.
Printed wiring board and schematic diagram that have been described on this service manual are for reference.
(Printed wiring board and schematic diagram of WIERLESS board have not described)

NOTE OF REPLACING THE BT NFC BOARD OR THE NFC MODULE

When replacing the BT NFC board or the NFC module, be sure to replace both at the same time.
The BT NFC board or the NFC module cannot replace with single.

WHAT TO DO IF PROTECT

If all of the LEDs are lit, it is state in the protect. This state shows an abnormality of the AMP circuit.
In this case, there is a possibility that the MAIN board is defective. Please replace the MAIN board.

NOTE OF REPLACING THE WIRELESS BOARD

When replaced the WIRELESS board, link of SA-CT180 and SA-WCT180 will be disconnected.
Before you return repaired unit to customers, please link the SA-CT180 and SA-WCT180 by the following procedure.
If, in a state in which only one of SA-CT180 or SA-WCT180 is brought into service field, and replaced the WIRELESS board of SA-CT180 or SA-WCT180, when returning the repaired unit, be sure to inform the customers that it is necessary to link the following procedure.

Enabling the Secure Link function

You can specify the wireless connection to link the Bar Speaker to the subwoofer using the Secure Link function. This function can help prevent interference if you use multiple wireless products or your neighbors use wireless products.

1. **Press LINK on the rear of the subwoofer.**
   You will hear beeps from the subwoofer.
2. **Hold down PAIRING on the Bar Speaker for 5 seconds, then VOL – for 5 seconds.**
   The OPTICAL and ANALOG indicators flash alternately.
   When the Bar Speaker is linked to the subwoofer, the indicators stop flashing.
   If it failed, the indicators light up for 5 seconds. Try again the above operation.

METHOD OF RESET

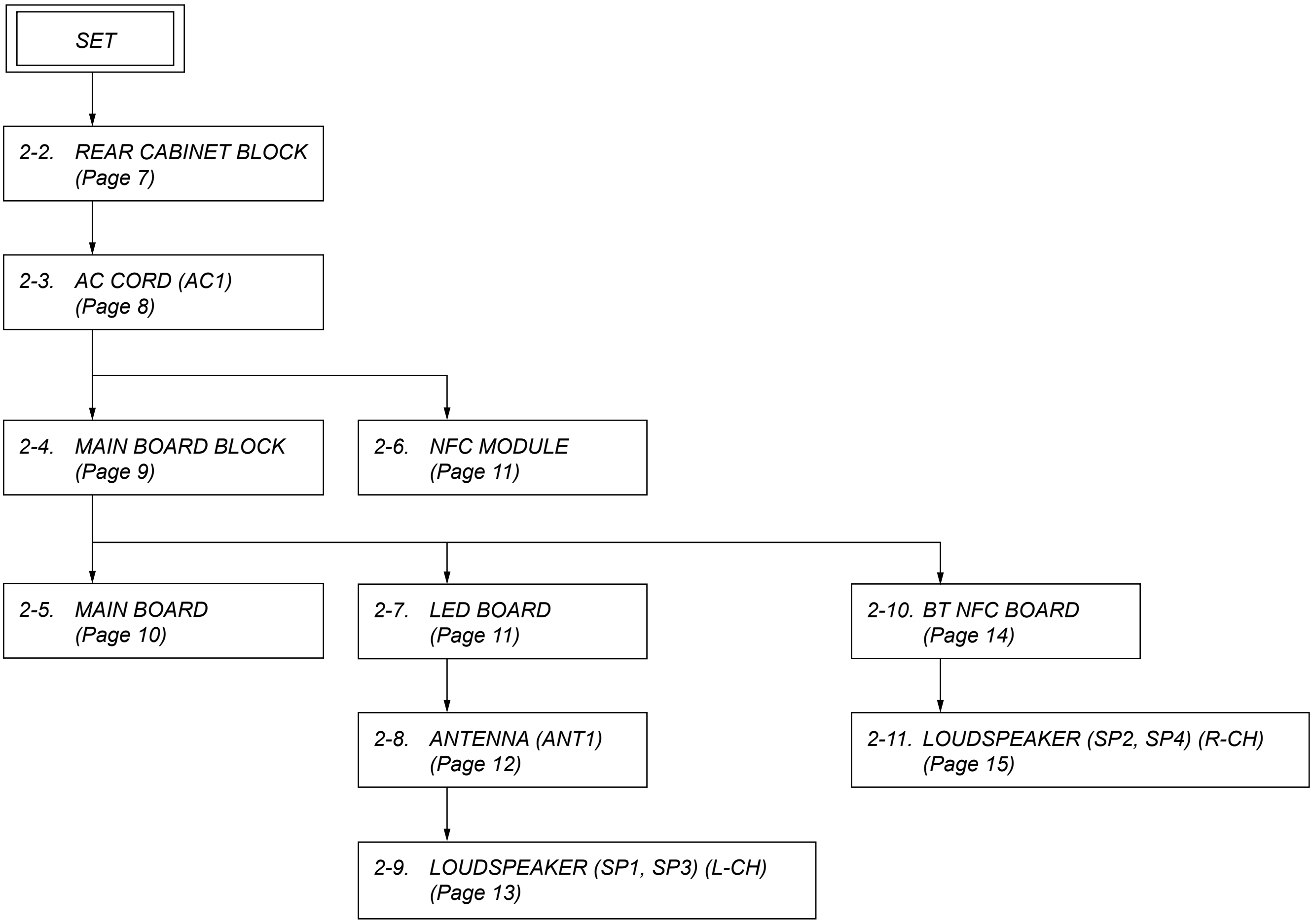
If the system still does not operate properly, reset the system as follows:

1. **While holding down the I/⏻ (on/standby) button on the system, hold down the INPUT and VOL – buttons simultaneously for 5 seconds.**
   All 5 indicators on the Bar Speaker flash 3 times, and the settings return to their initial status.
2. **Disconnect the AC power cord (mains lead).**

SECTION 2
DISASSEMBLY

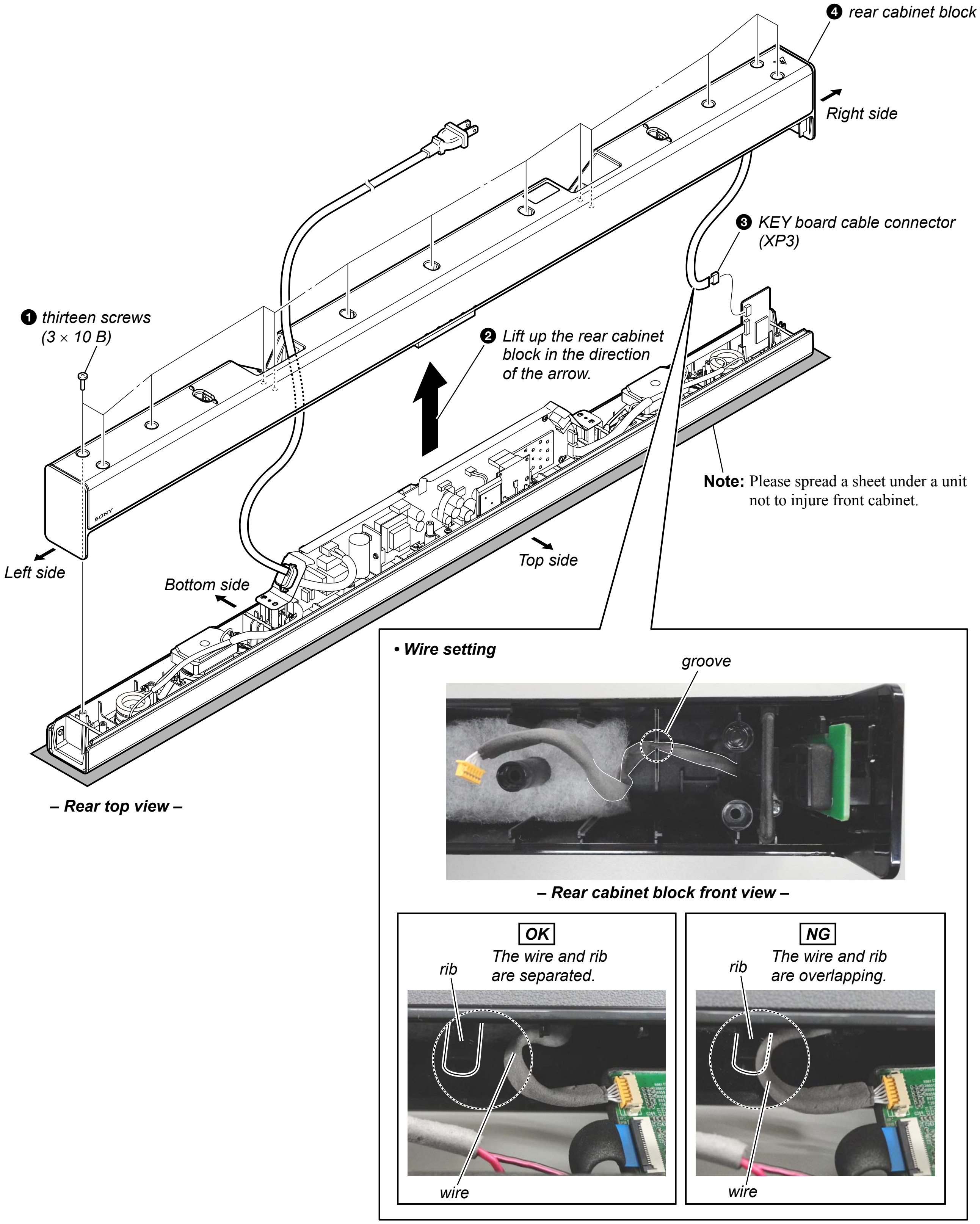
- This set can be disassembled in the order shown below.

2-1. DISASSEMBLY FLOW

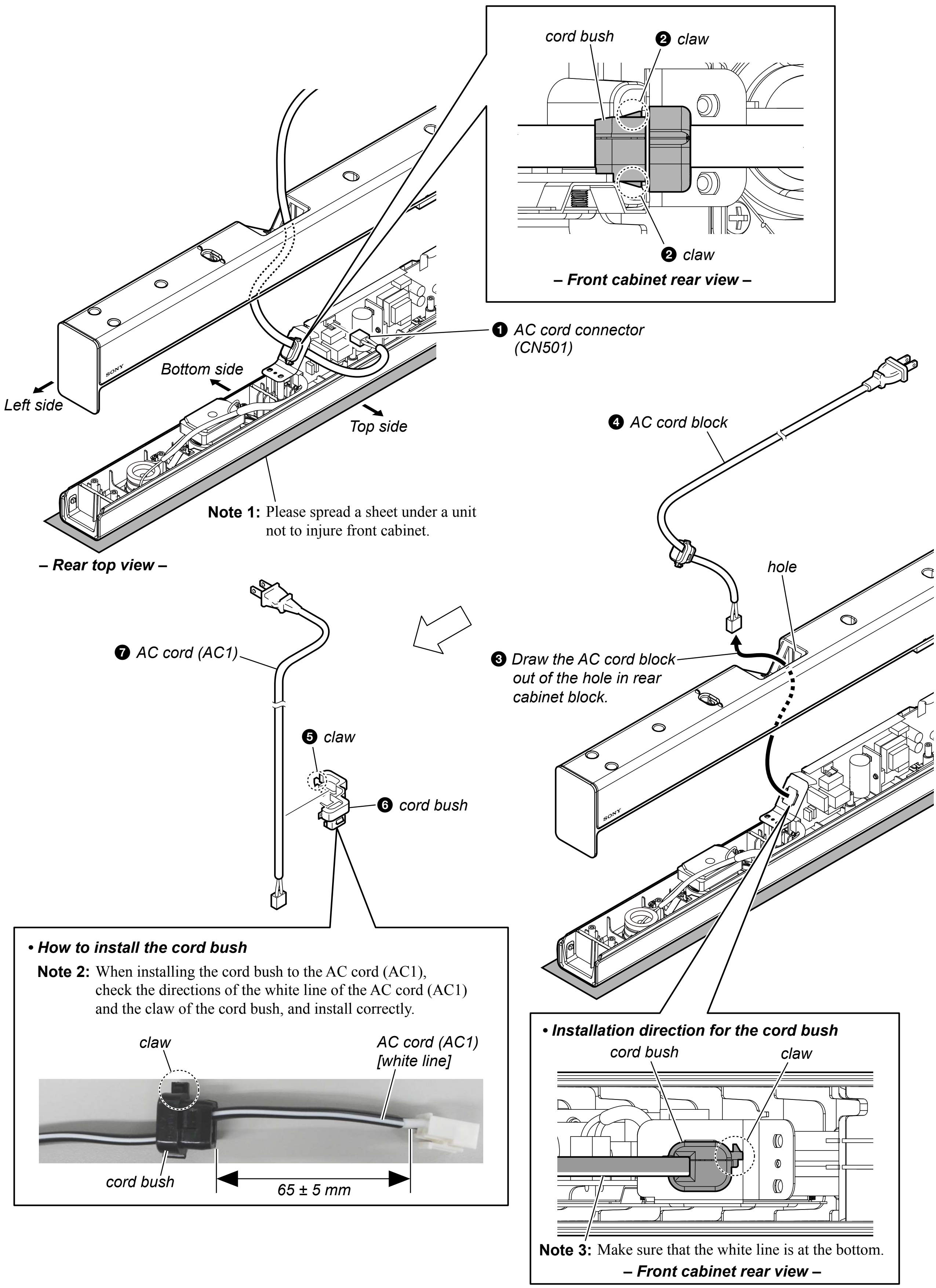


Note: Follow the disassembly procedure in the numerical order given.

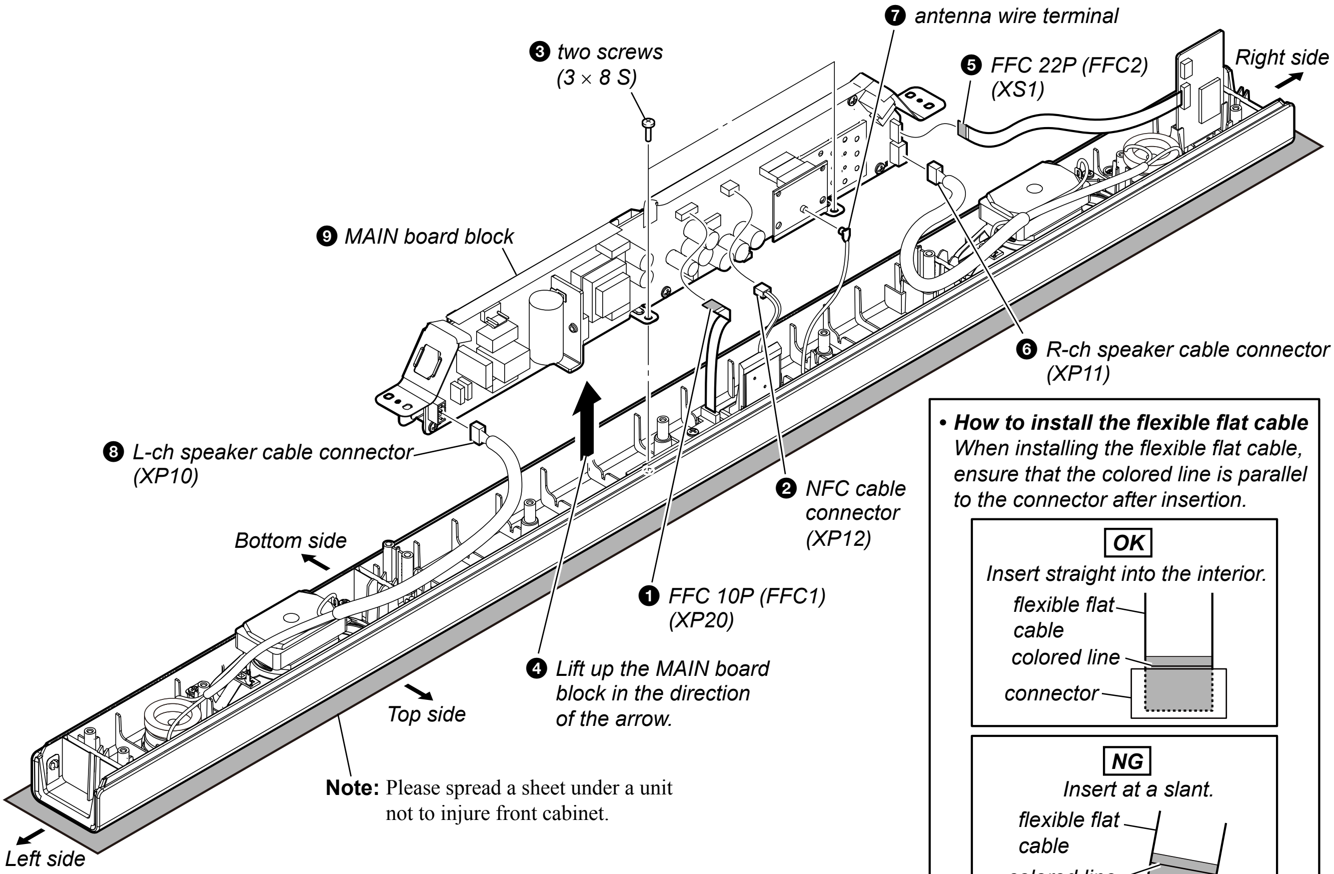
2-2. REAR CABINET BLOCK



2-3. AC CORD (AC1)



2-4. MAIN BOARD BLOCK



– Front cabinet block rear top view –

- ***How to install the flexible flat cable***
  When installing the flexible flat cable, ensure that the colored line is parallel to the connector after insertion.

OK

Insert straight into the interior.

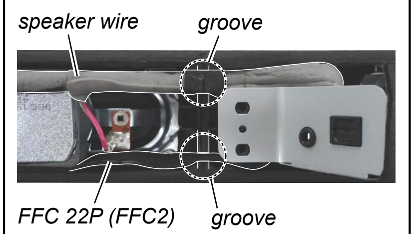
flexible flat cable
colored line
connector

NG

Insert at a slant.

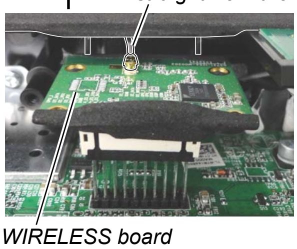
flexible flat cable
colored line
connector

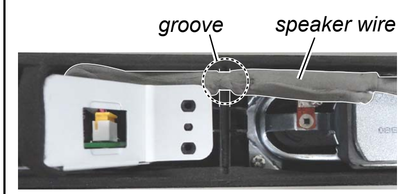
- ***Wire setting***



front side

Install the antenna wire straight from the front side.



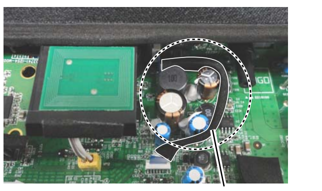




– Front cabinet block rear view –

OK

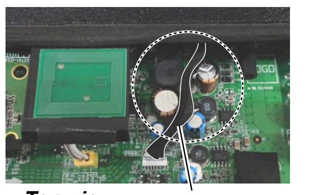
The FFC is goes around the parts.



– Top view –

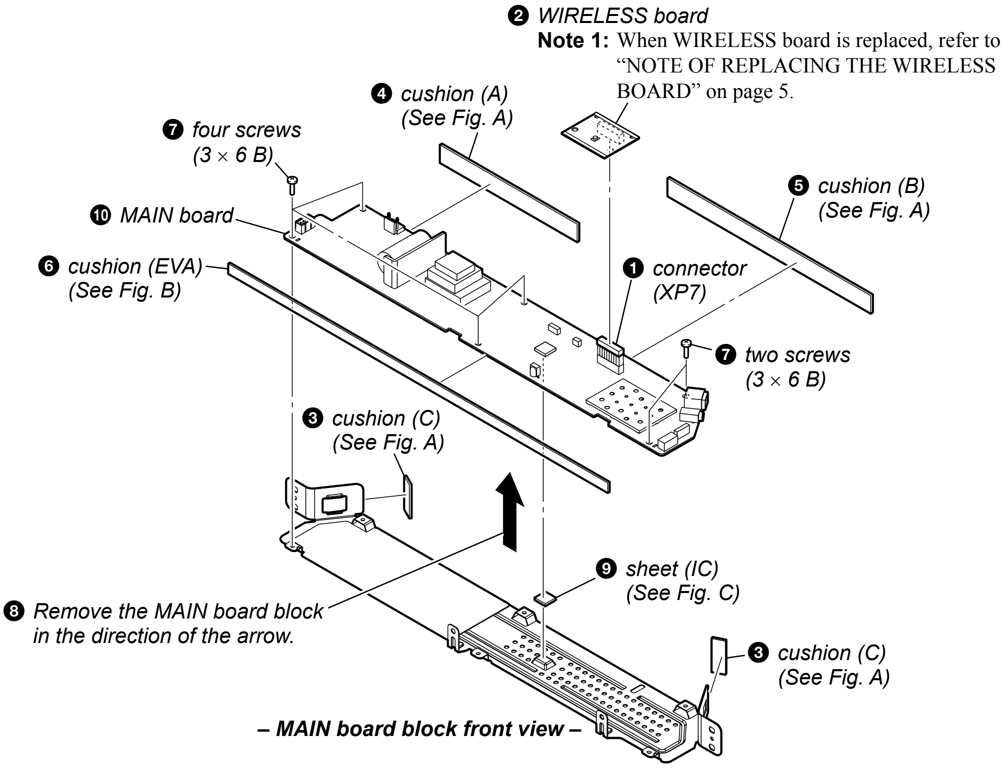
NG

The FFC goes in between the parts.



– Top view –

2-5. MAIN BOARD

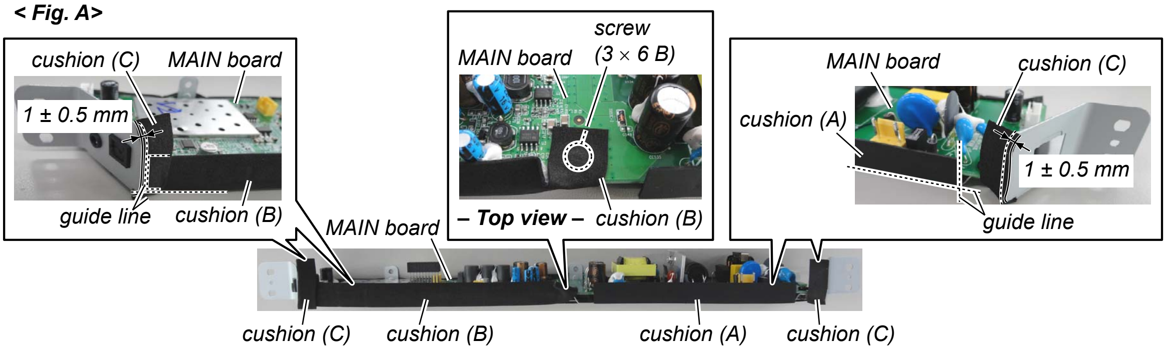


– MAIN board block front view –

• Pasting position of cushions

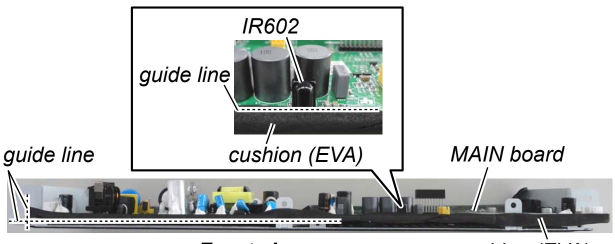
Note 2: When replacing the MAIN board, make sure to affix these cushions and the sheet.
The cushions and the sheet are supplied as a set.

< Fig. A>



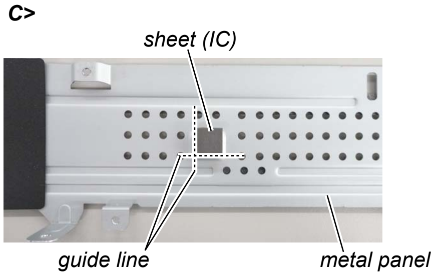
– MAIN board block rear view –

< Fig. B>



– Front view –

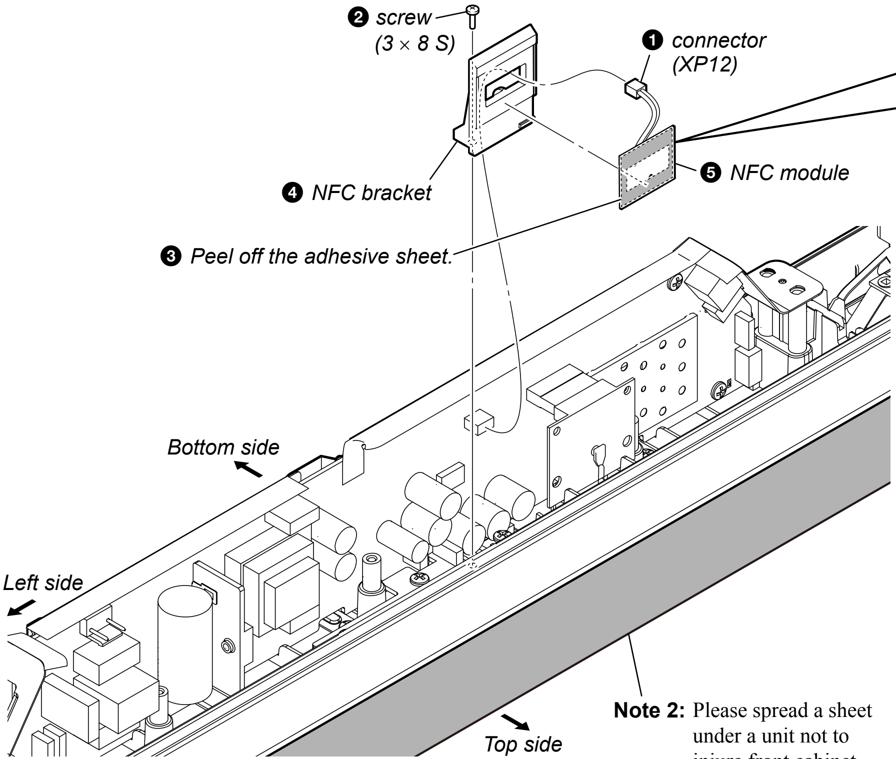
< Fig. C>



– Metal panel top view –

2-6. NFC MODULE

Note 1: When replacing the BT NFC board or the NFC module, be sure to replace both at the same time.
The BT NFC board or the NFC module cannot replace with single.



Note 2: Please spread a sheet under a unit not to injure front cabinet.

– Front cabinet block rear top view –

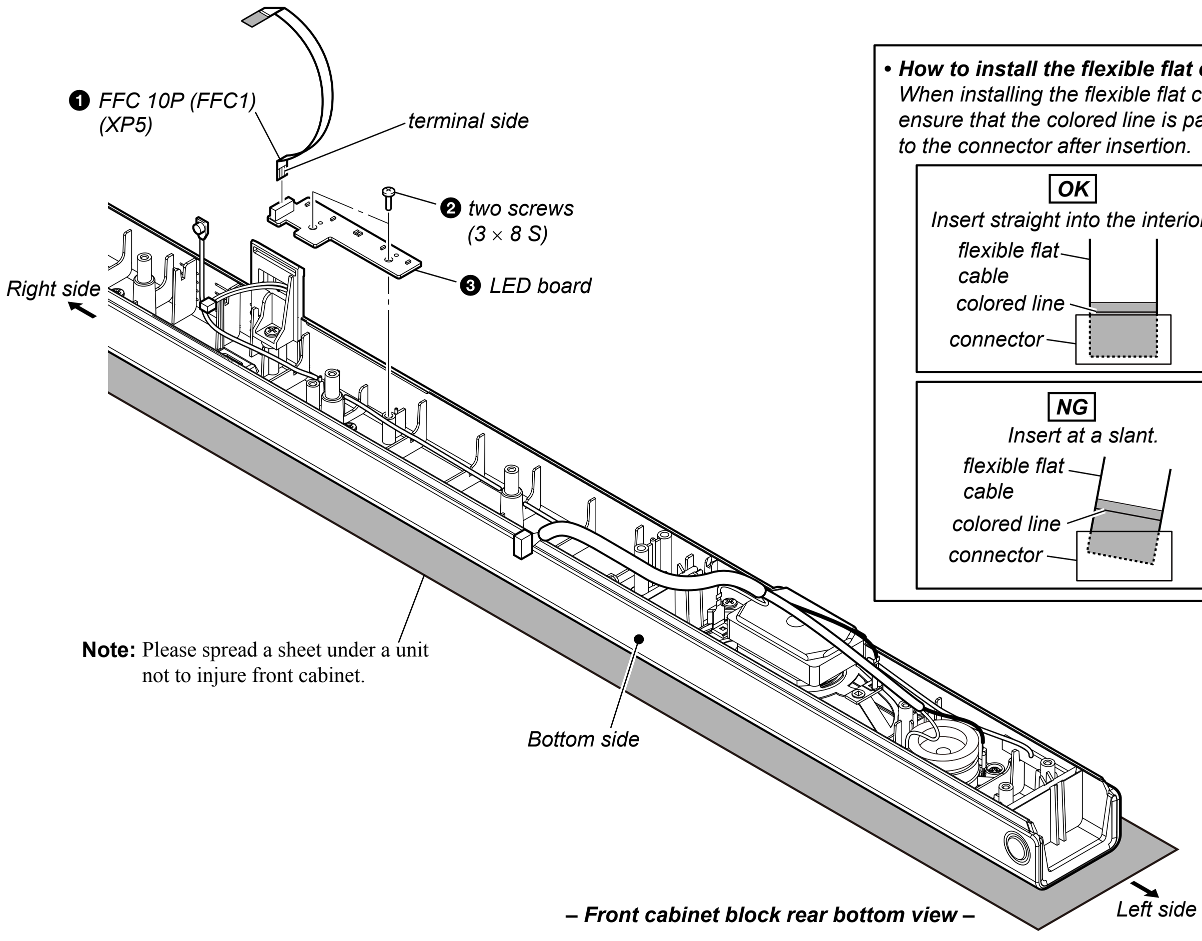
• *How to install the NFC module*

Note 3: When installing the NFC module to the NFC bracket, install so that the solder portion of the wire is positioned as shown in the figure below.



– NFC module block bottom view –

2-7. LED BOARD



Note: Please spread a sheet under a unit not to injure front cabinet.

– Front cabinet block rear bottom view –

• *How to install the flexible flat cable*
When installing the flexible flat cable, ensure that the colored line is parallel to the connector after insertion.

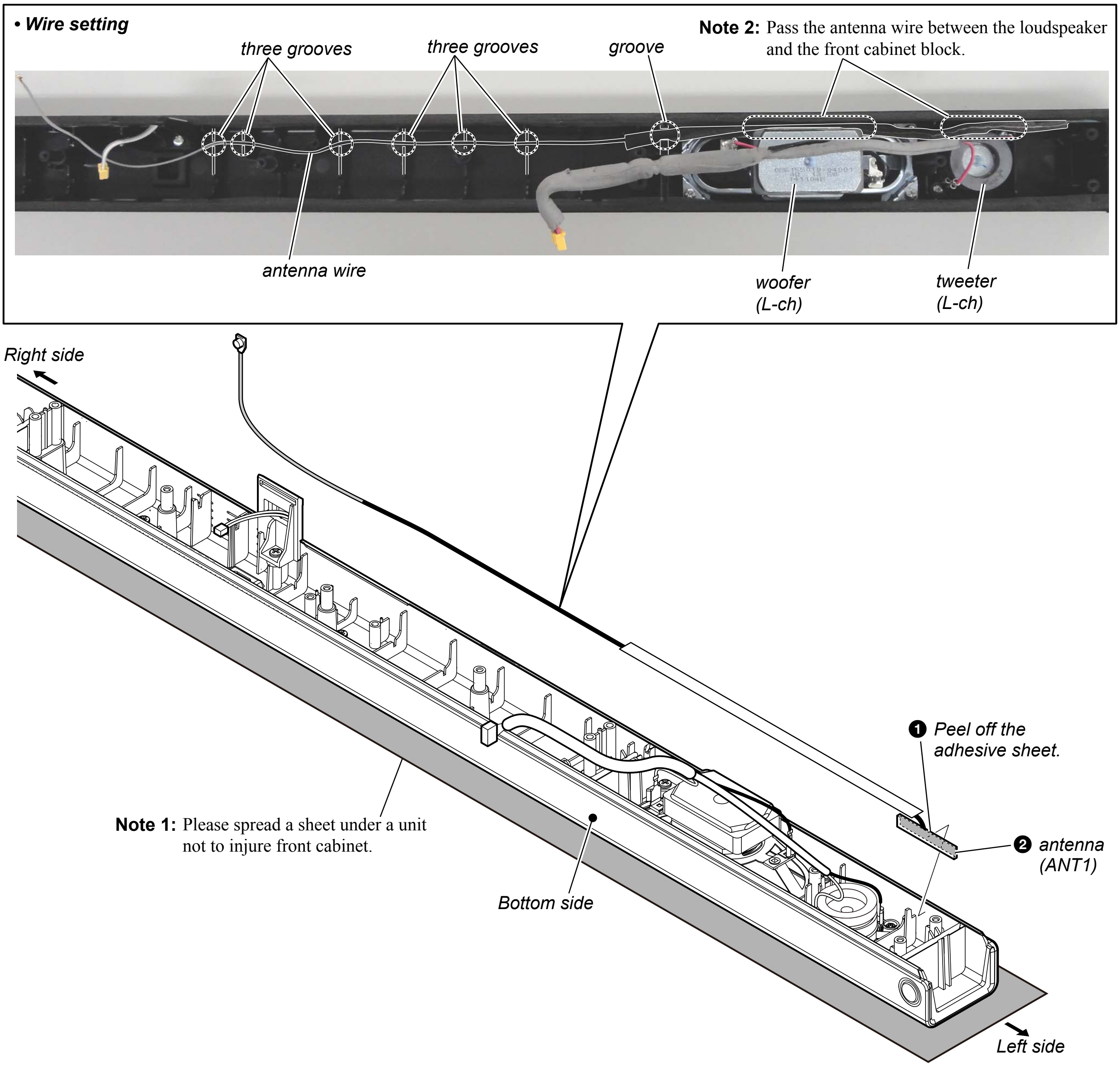
OK

Insert straight into the interior.

NG

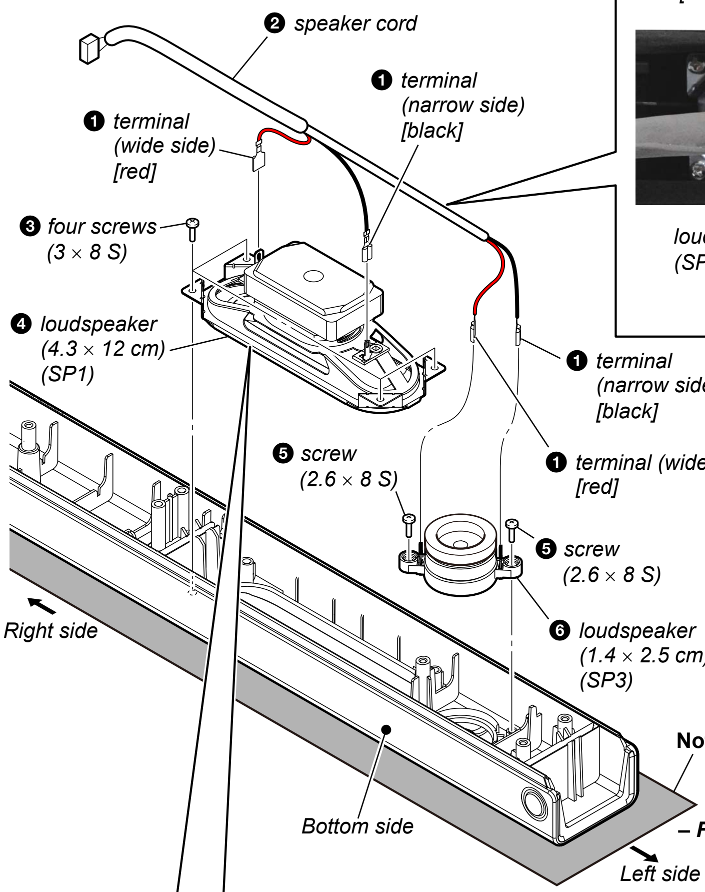
Insert at a slant.

2-8. ANTENNA (ANT1)



– Front cabinet block rear bottom view –

2-9. LOUDSPEAKER (SP1, SP3) (L-CH)

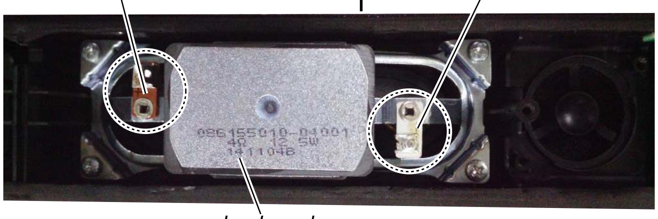


– Front cabinet block rear bottom view –

• Speaker cord setting (L-ch)



• Installation direction for the loudspeaker (4.3 × 12 cm) (SP1)



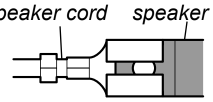
– Front cabinet block rear view –

• How to install the speaker terminal

Insert the speaker terminal straight into the interior. There is a possibility that using this unit without the speaker terminal correctly installed will damage it.

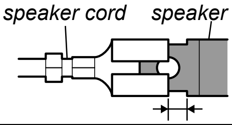
OK

Insert straight into the interior.



NG

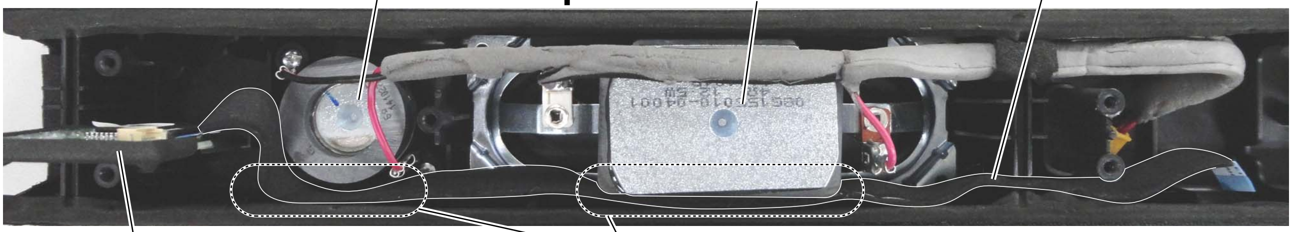
nsert only part way.



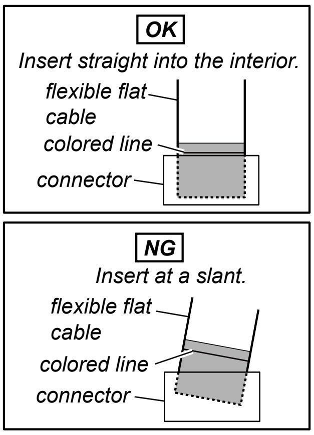
2-10. BT NFC BOARD

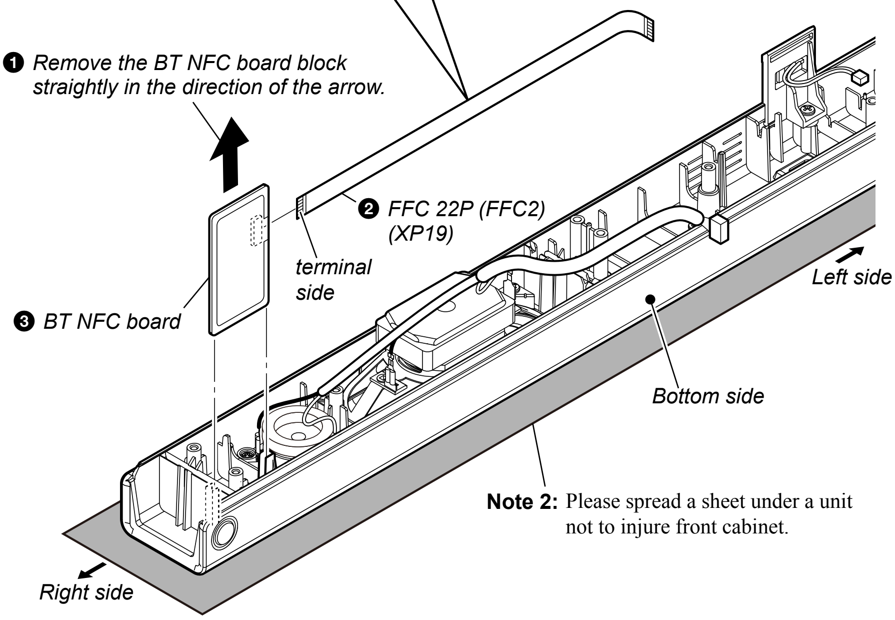
Note 1: When replacing the BT NFC board or the NFC module, be sure to replace both at the same time.
The BT NFC board or the NFC module cannot replace with single.

• Wire setting



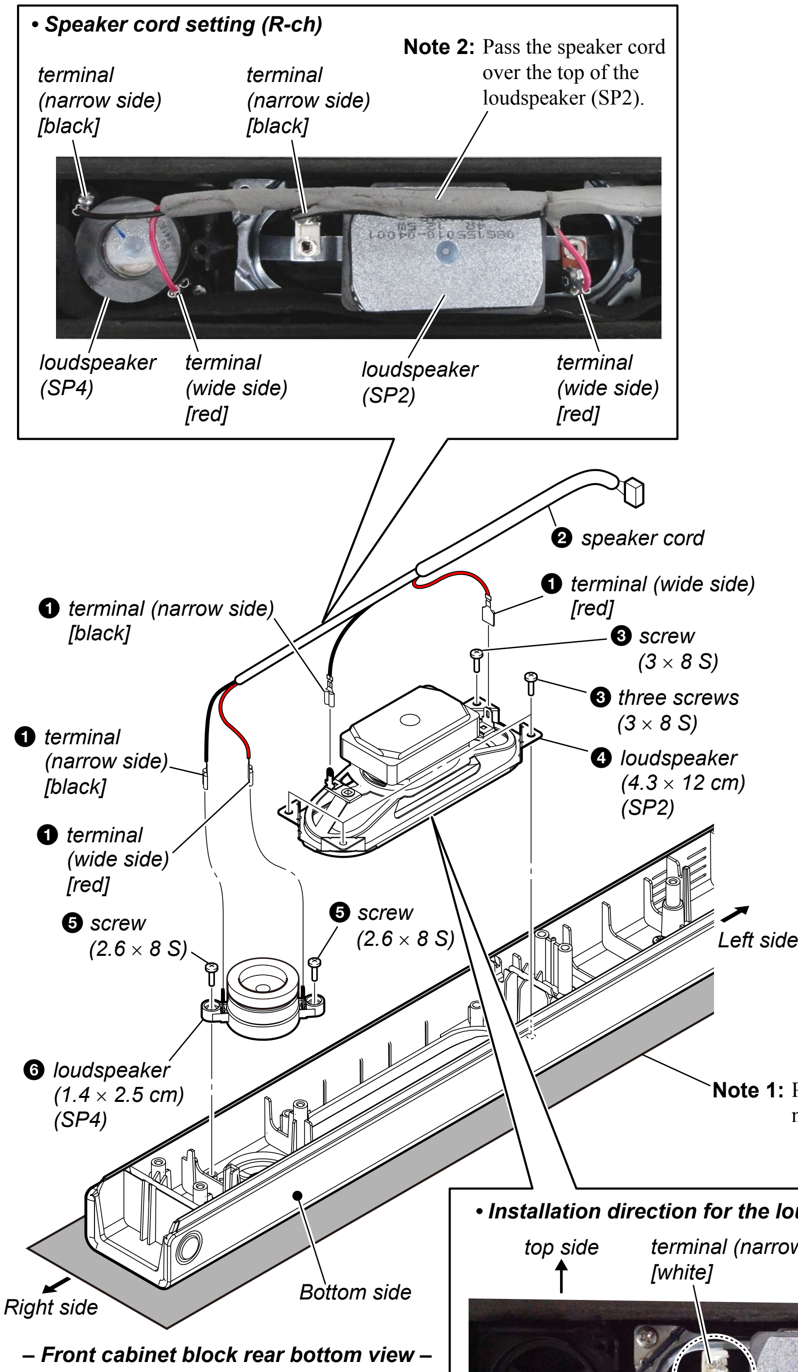
• How to install the flexible flat cable
When installing the flexible flat cable, ensure that the colored line is parallel to the connector after insertion.

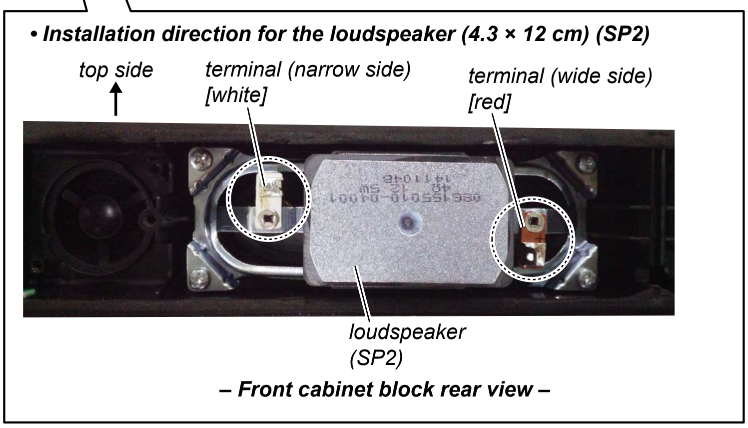




– Front cabinet block rear bottom view –

2-11. LOUDSPEAKER (SP2, SP4) (R-CH)



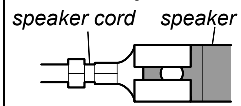


• How to install the speaker terminal

Insert the speaker terminal straight into the interior.
There is a possibility that using this unit without the speaker terminal correctly installed will damage it.

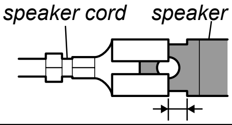
OK

Insert straight into the interior.



NG

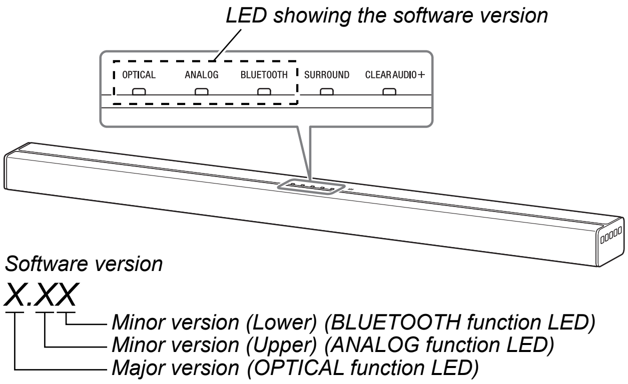
nsert only part way.



SECTION 3
TEST MODE

VERSION DISPLAY
The check of the software version can be performed.

Procedure:
1. Press the [I/⏻] button to turn the power on.
2. Press three buttons of the [INPUT], [VOL+] and [VOL−] simultaneously for 2 seconds.
3. When enter the version display mode, the software version is shown by the frequency of blinking of each LED.



Example: When the software version is “1.02”
OPTICAL function LED is blink once.
ANALOG function LED is not blink.
BLUETOOTH function LED is blink twice.

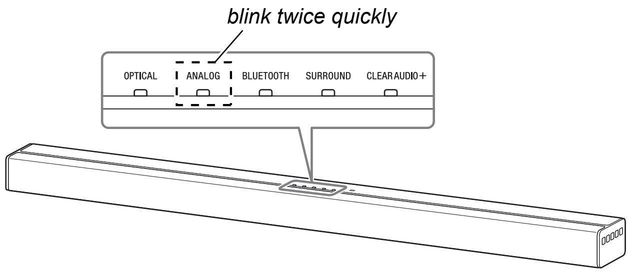
4. When the version display is finished, return to the normal mode.

FACTORY RESET
It can clear all settings and the Bluetooth pairing history to initial conditions. Execute this mode when returning this unit to the customer.

Procedure:
1. Press the [I/⏻] button to turn the power on.
2. Press three buttons of the [INPUT], [VOL−] and [I/⏻] simultaneously for 5 seconds.
3. Blink three times all LEDs, then lights up all LEDs. When the reset is complete, all LEDs light off and becomes the standby status.

DEMO MODE
The demo mode can be performed.
(This mode is used by shop front)

Procedure:
1. Press the [I/⏻] button to turn the power on.
2. Press two buttons of the [INPUT] and [VOL−] simultaneously for 5 seconds.
3. When enter the demo mode, ANALOG function LED is blink twice quickly, then changed to the setting of initial value for demo mode.



Initial value for demo mode:

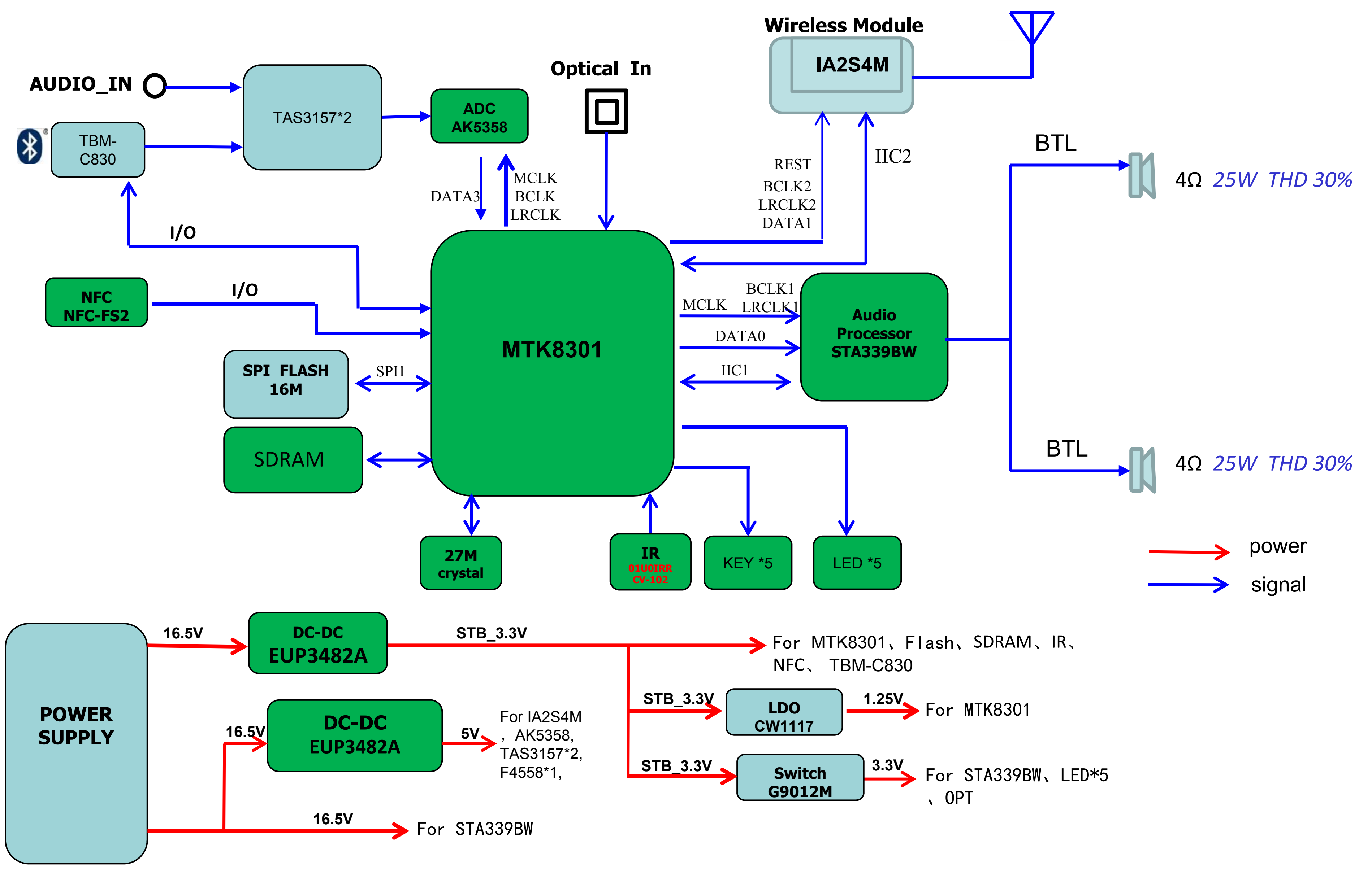
Function	: OPTICAL
Volume	: 25
Muting	: OFF
Sound field	: CLEAR AUDIO+
Night mode	: OFF
Voice	: OFF
Subwoofer volume	: 10
Dual mono	: MAIN

Note 1: When demo mode is “ON”, the operation of the [I/⏻] button on the unit, and the operation of the [I/⏻] and [INPUT] buttons on the remote commander is invalid.
Note 2: When the non-operation and no sound for five minutes is followed, setting will return to the initial value for demo mode.

Releasing method:
Perform the “FACTORY RESET”.
Note: The demo mode does not release by unplug the AC cord.

SECTION 4
DIAGRAMS

4-1. BLOCK DIAGRAM



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

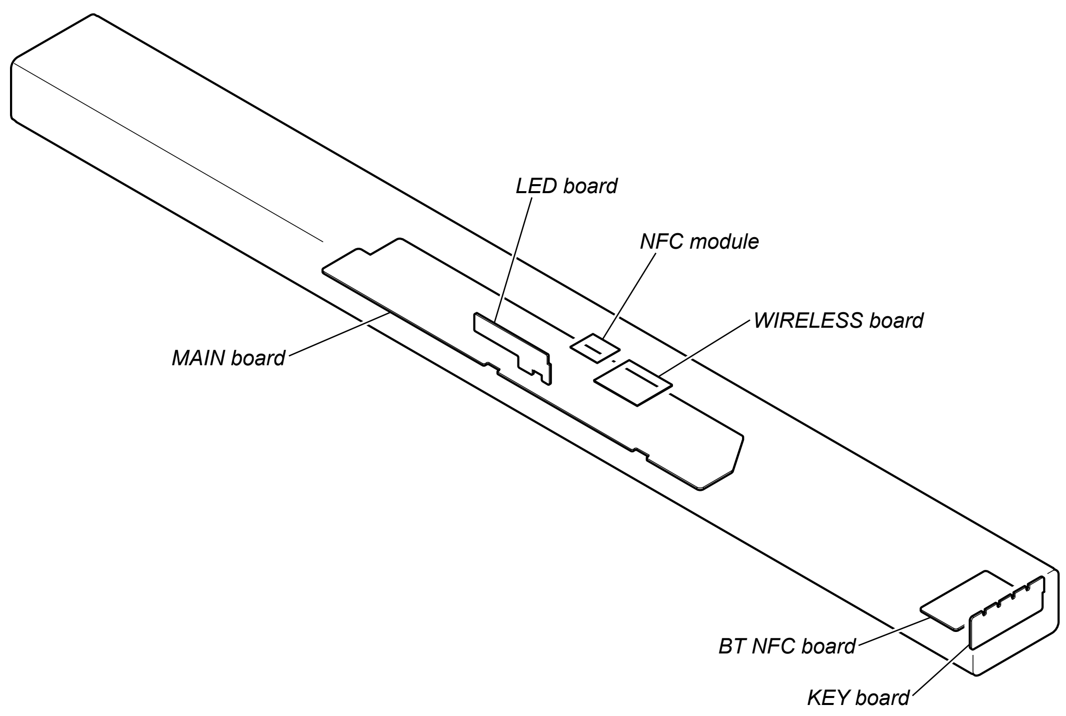
For Printed Wiring Boards.
Note:
- [green pattern] : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

For Schematic Diagrams.
Note:
- All capacitors are in μF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

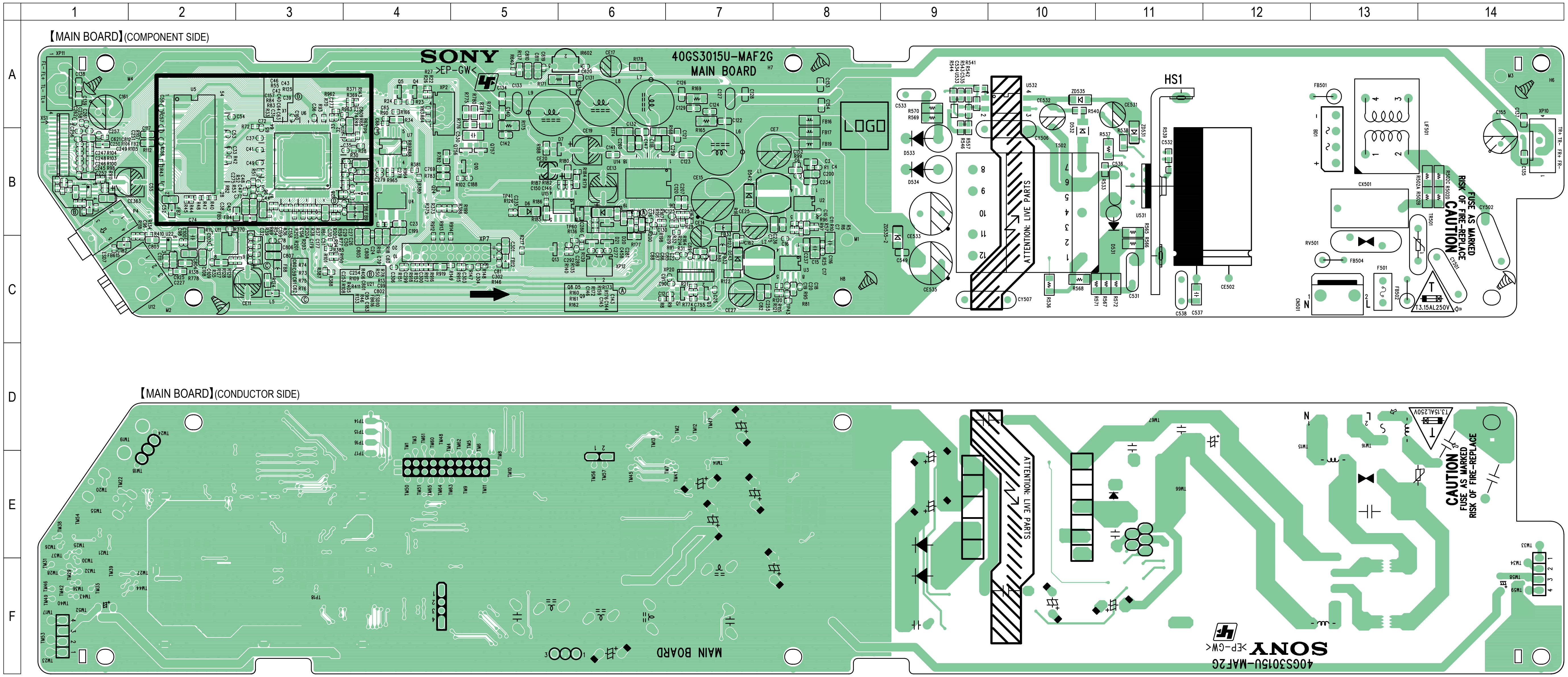
Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- **Circuit Boards Location**



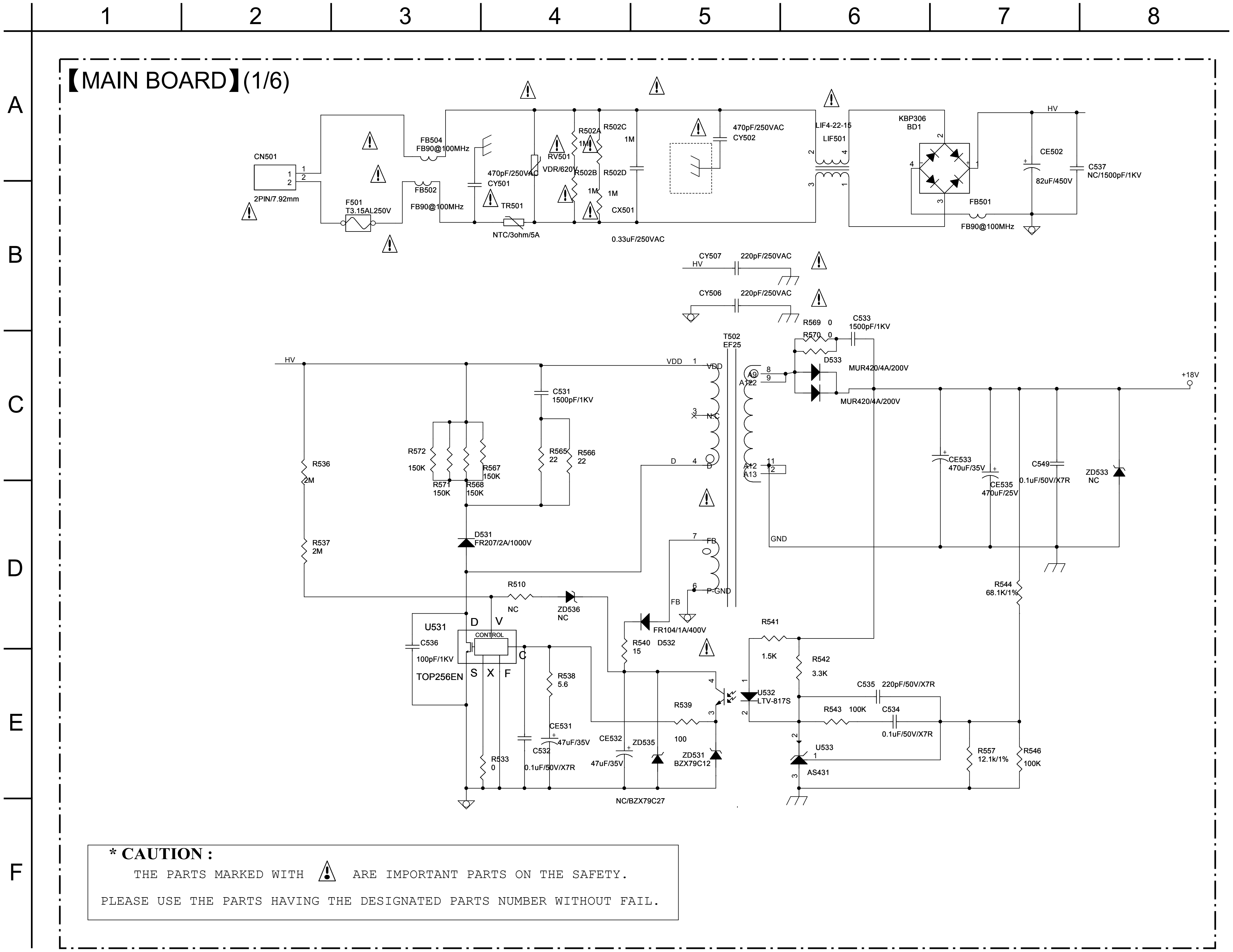
4-2. PRINTED WIRING BOARD - MAIN Board -

• See page 18 for Circuit Boards Location. • : Uses unleaded solder.

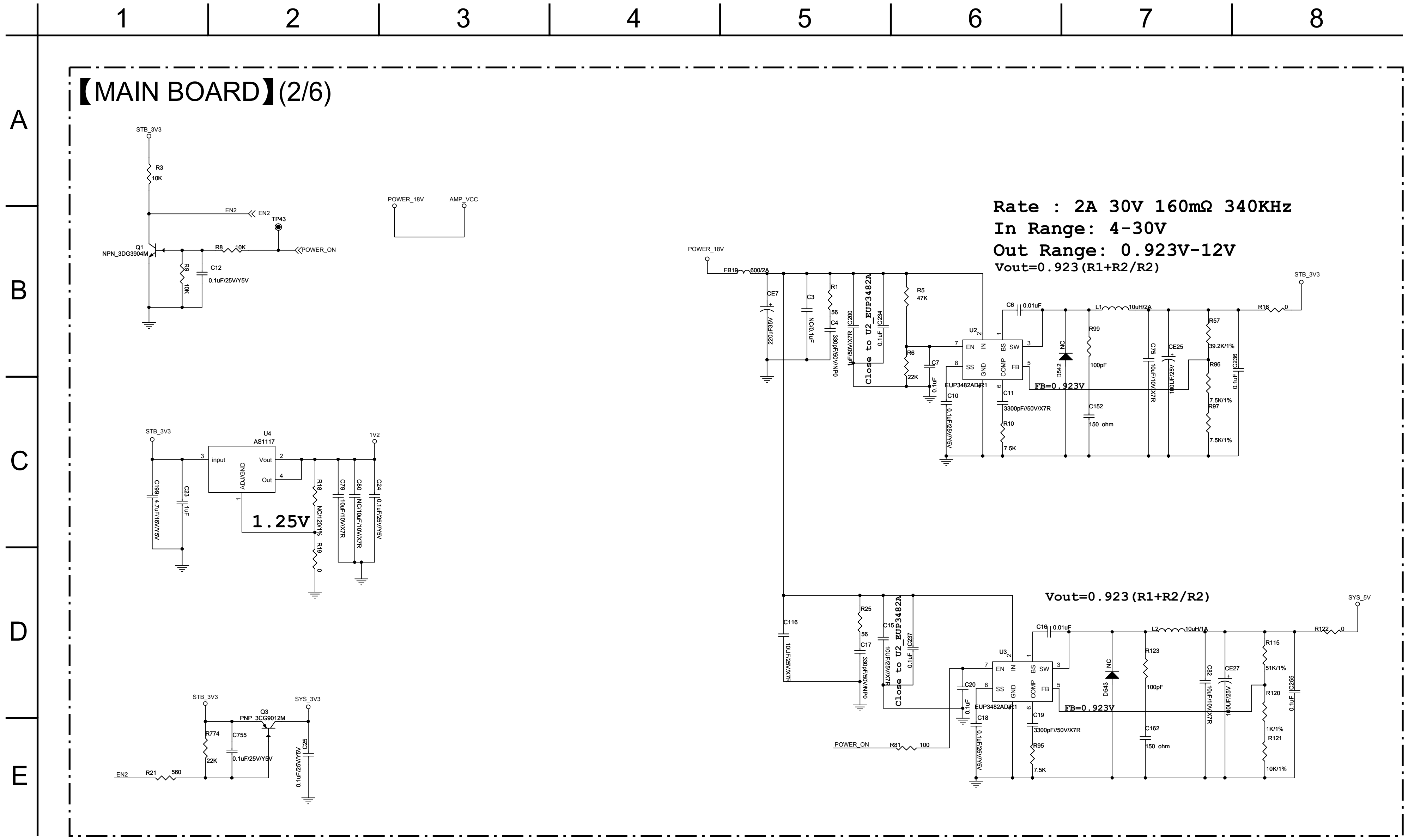


4-3. SCHEMATIC DIAGRAM - MAIN Board (1/6) -

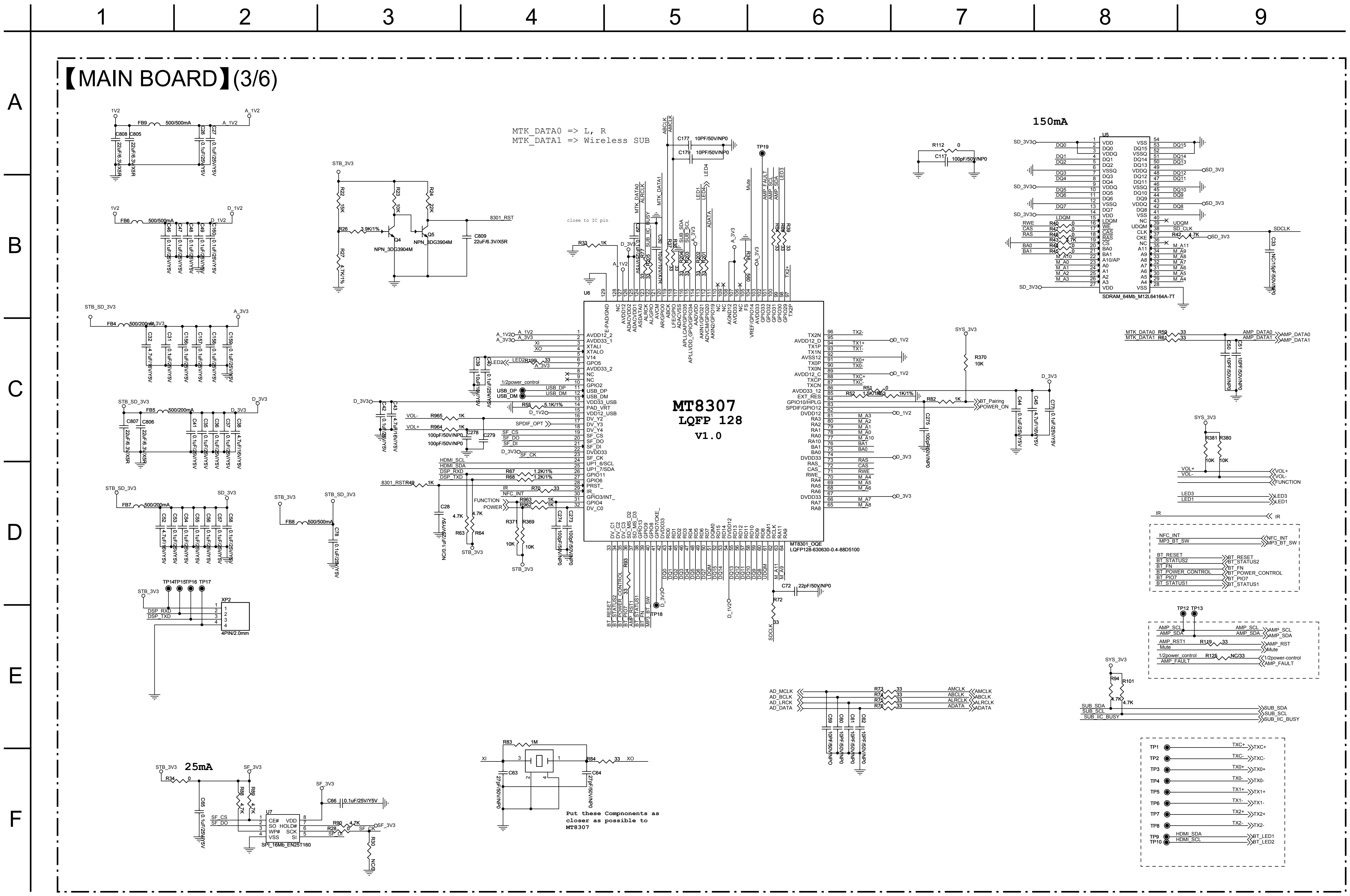
• See page 28 for IC Block Diagrams.



4-4. SCHEMATIC DIAGRAM - MAIN Board (2/6) - • See page 28 for IC Block Diagrams.

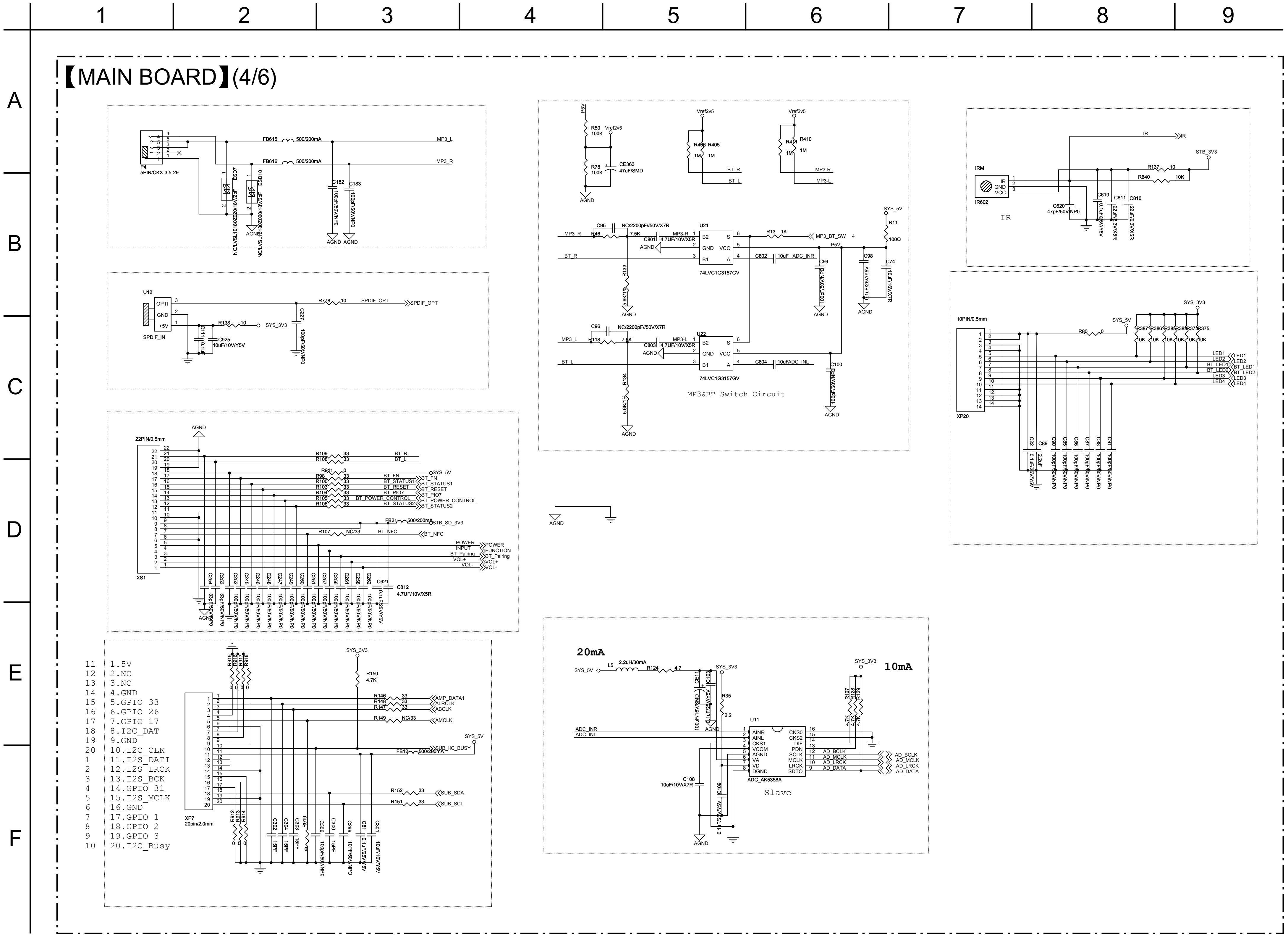


4-5. SCHEMATIC DIAGRAM - MAIN Board (3/6) - • See page 28 for IC Block Diagrams. • See page 29 for IC Pin Function Description.

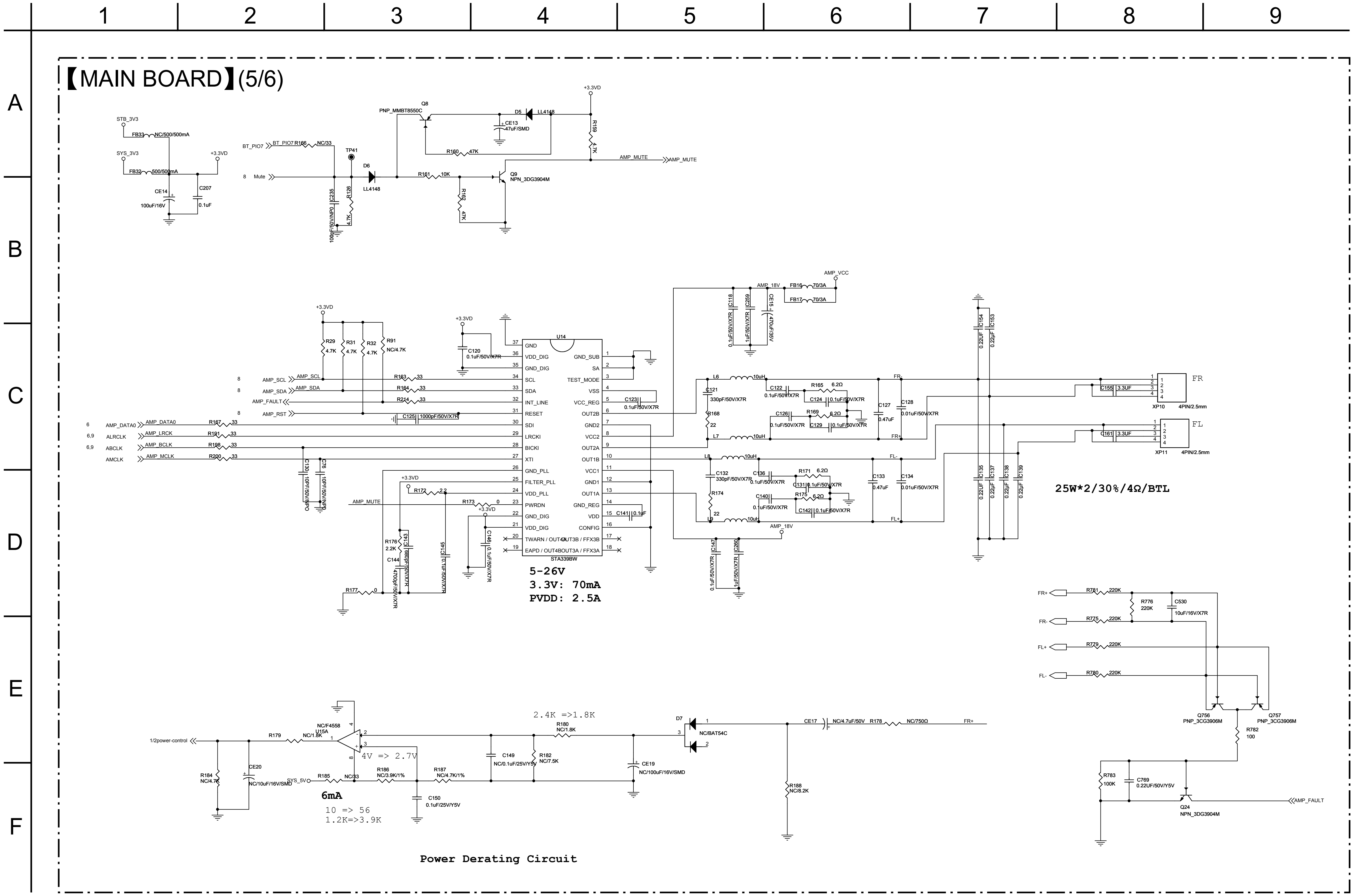


4-6. SCHEMATIC DIAGRAM - MAIN Board (4/6) -

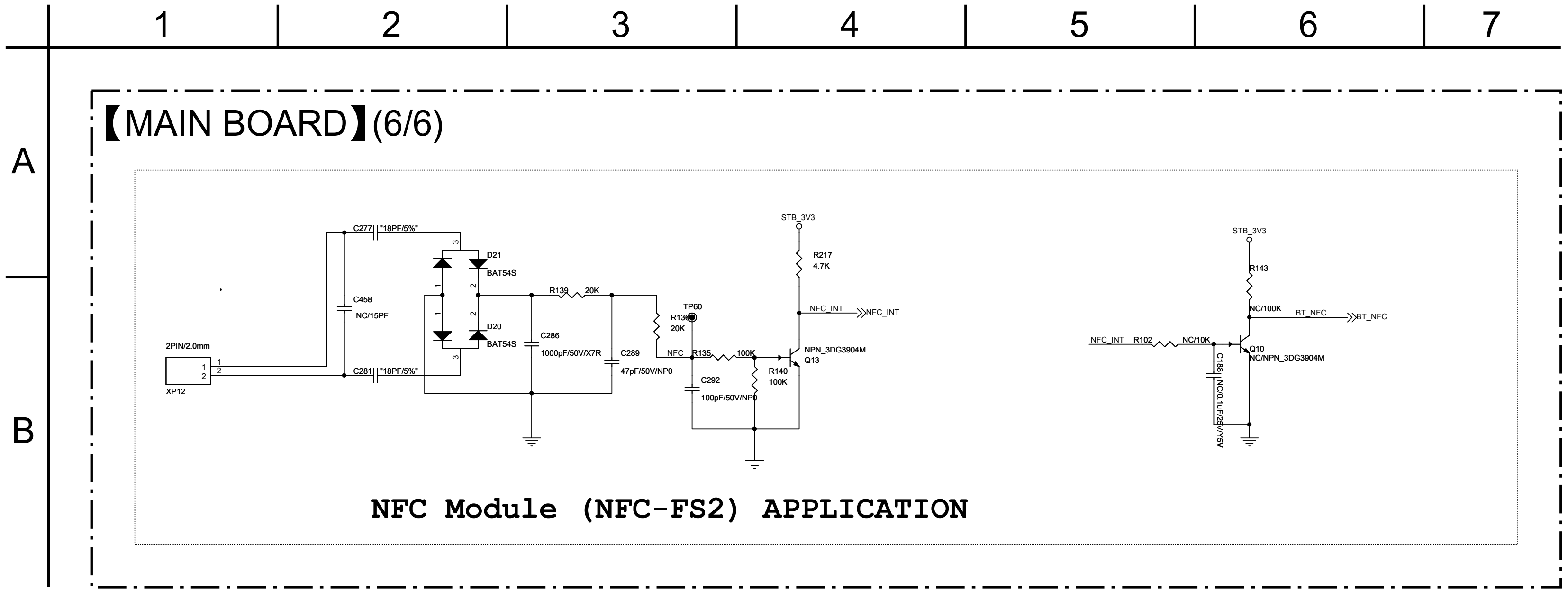
• See page 28 for IC Block Diagrams.



4-7. SCHEMATIC DIAGRAM - MAIN Board (5/6) - • See page 29 for IC Pin Function Description.

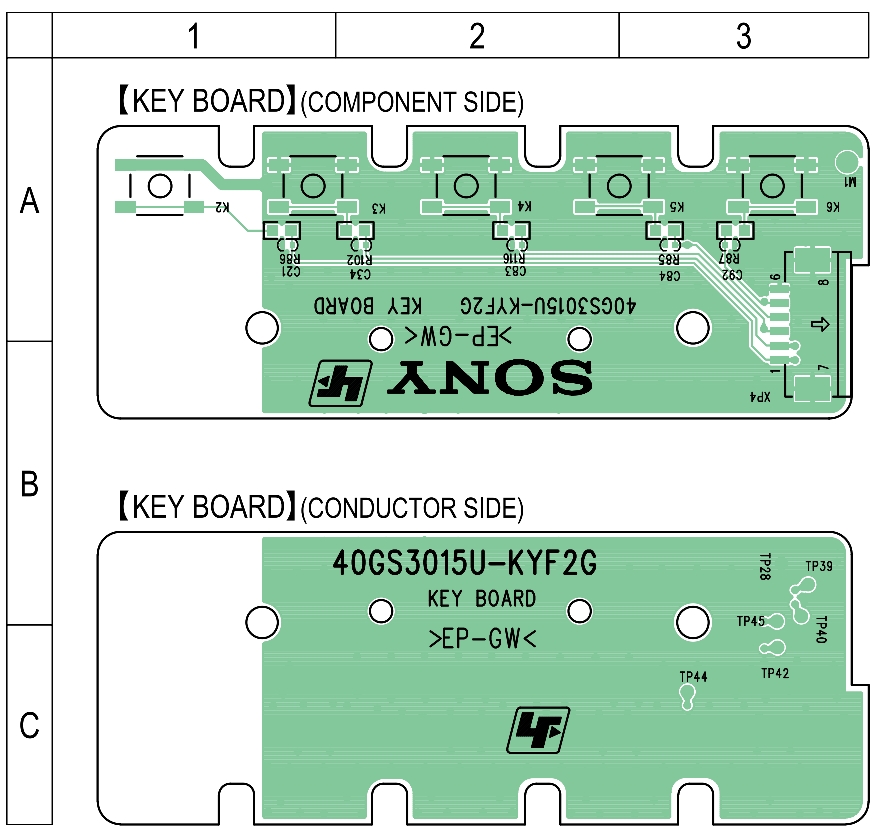


4-8. SCHEMATIC DIAGRAM - MAIN Board (6/6) -

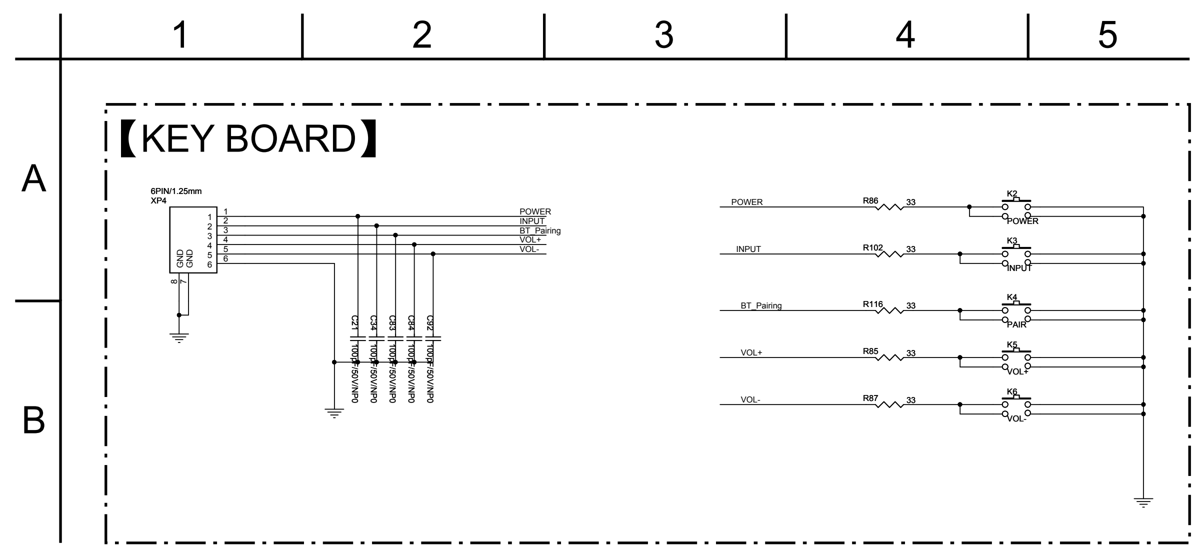


4-9. PRINTED WIRING BOARD - KEY Board -

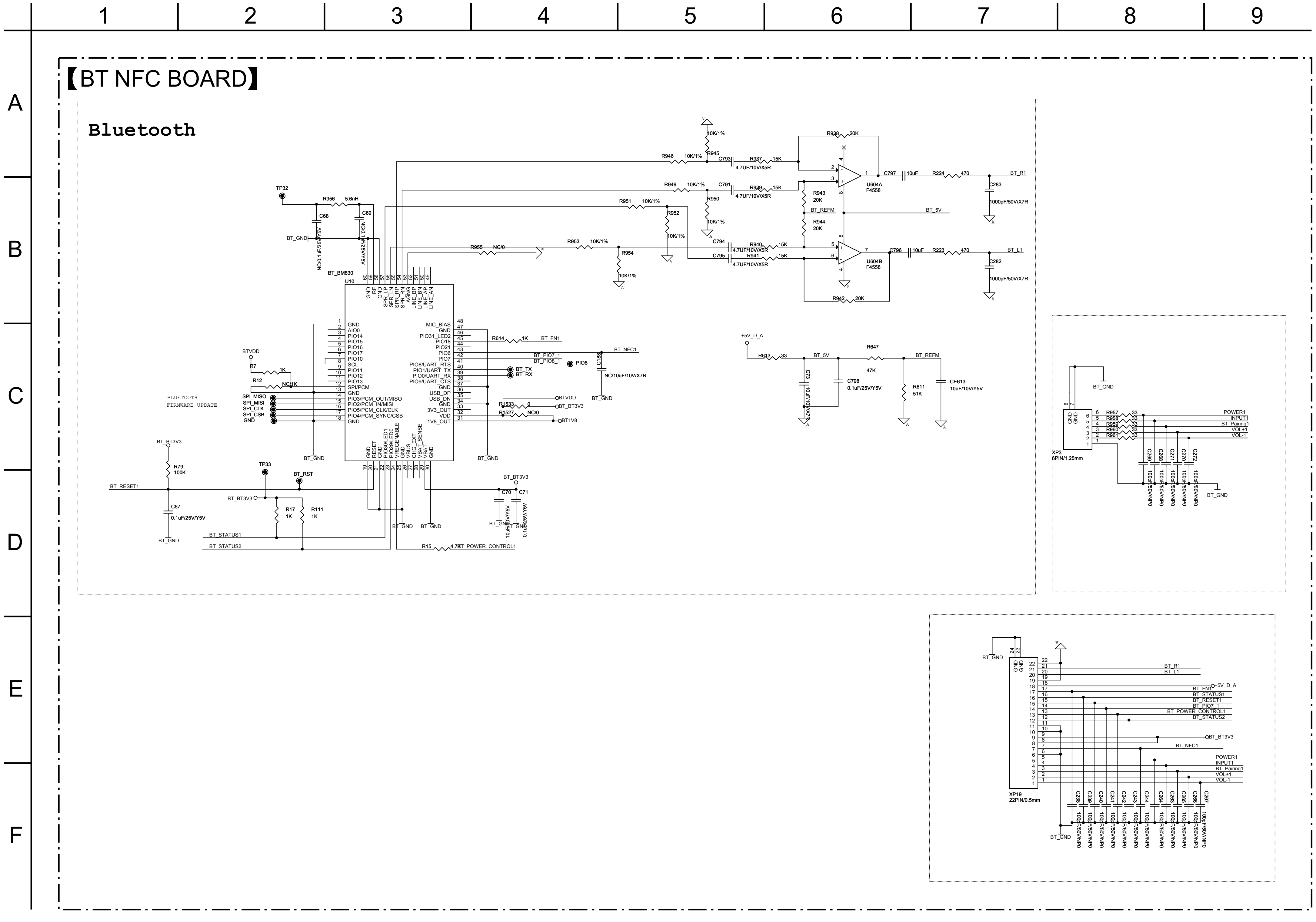
• See page 18 for Circuit Boards Location. • : Uses unleaded solder.



4-10. SCHEMATIC DIAGRAM - KEY Board -

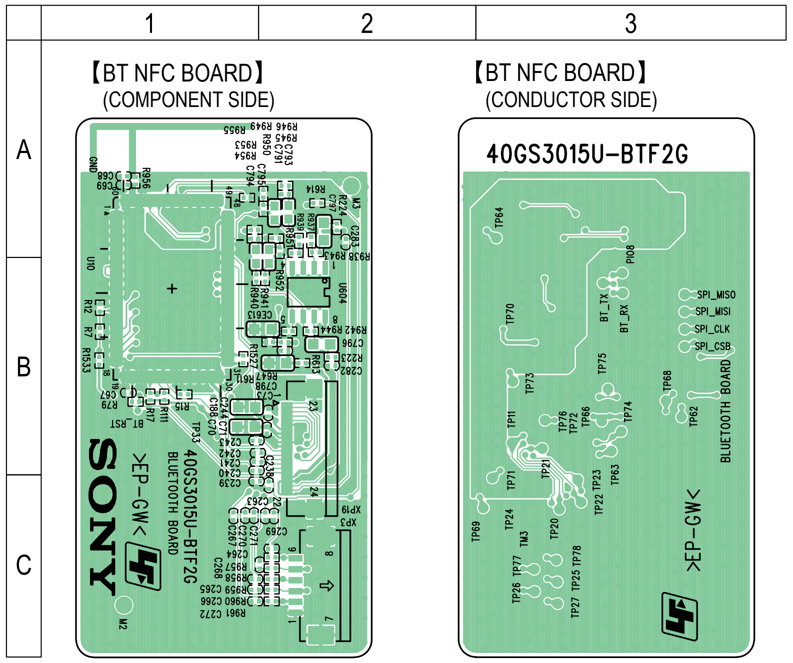


4-11. SCHEMATIC DIAGRAM - BT NFC Board -



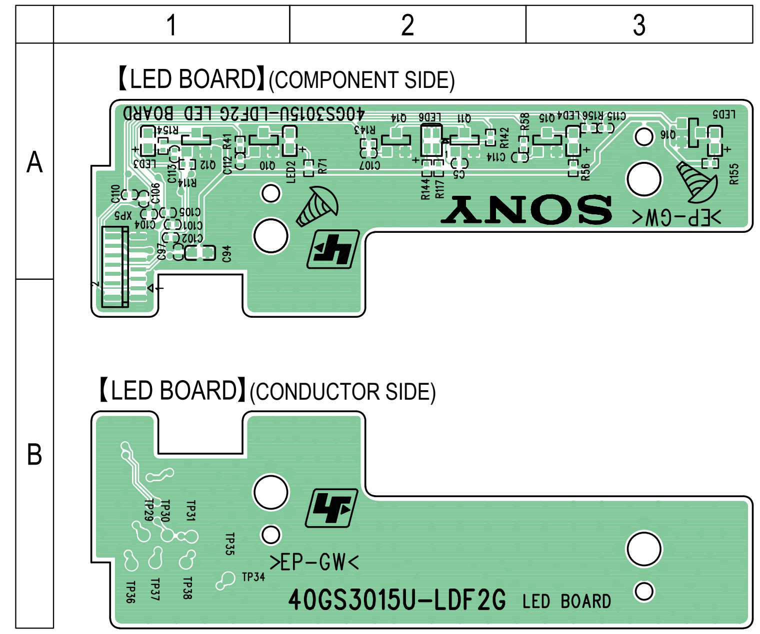
4-12. PRINTED WIRING BOARD - BT NFC Board -

• See page 18 for Circuit Boards Location. • LF : Uses unleaded solder.

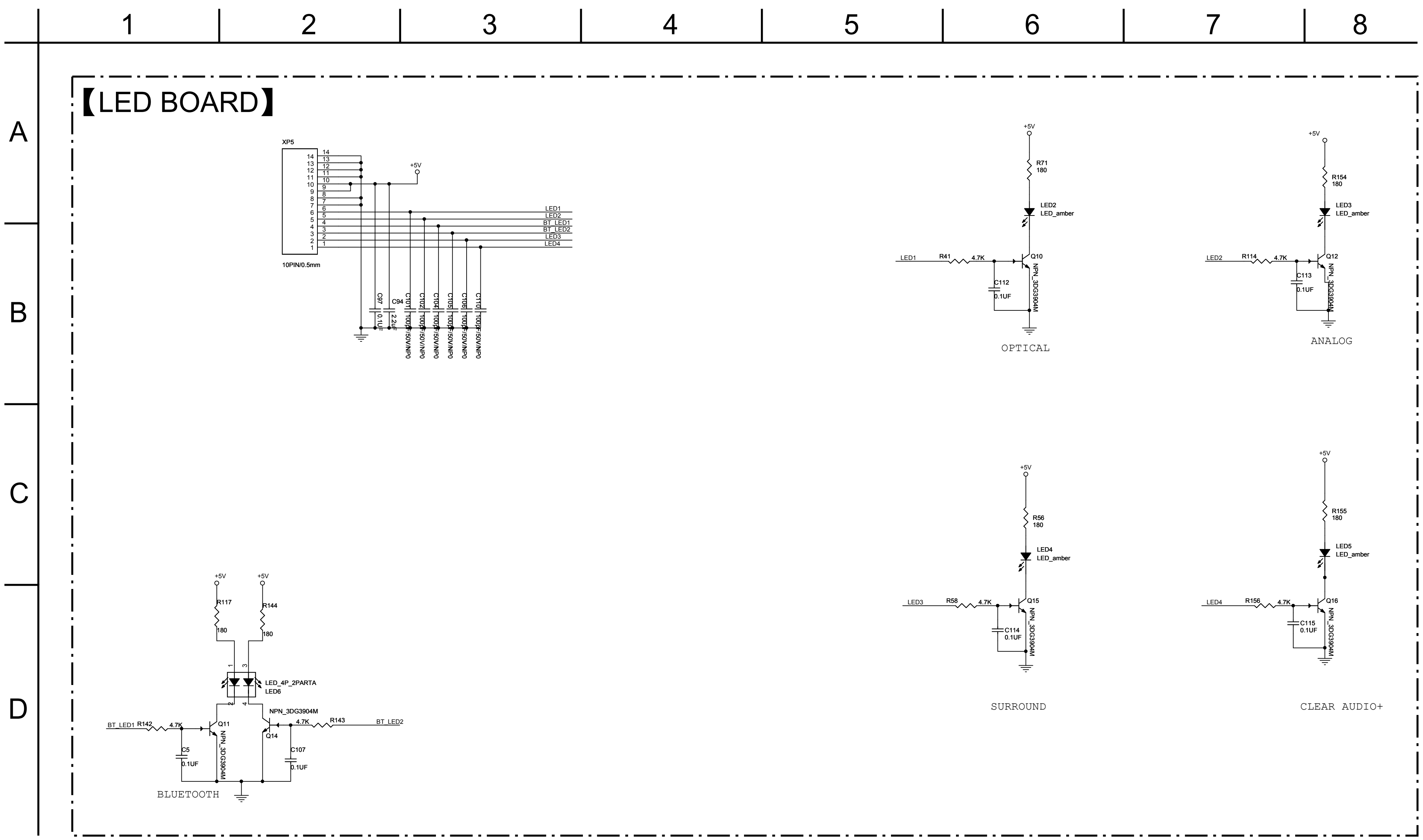


4-13. PRINTED WIRING BOARD - LED Board -

• See page 18 for Circuit Boards Location. • LF : Uses unleaded solder.



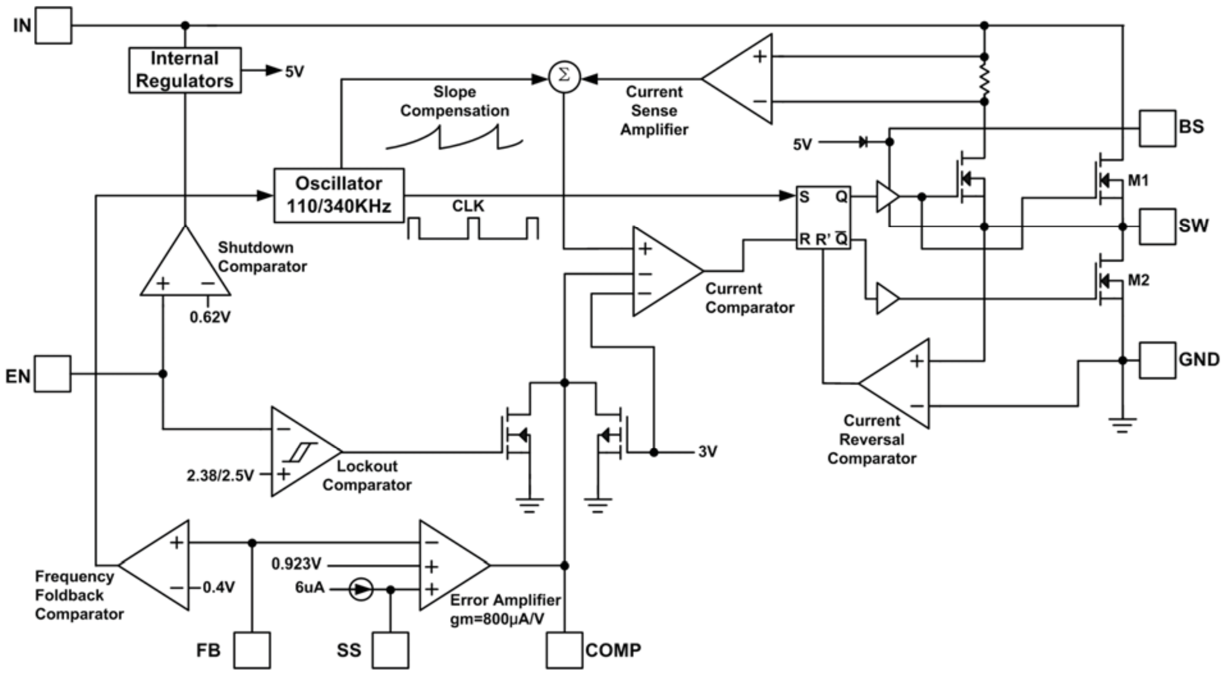
4-14. SCHEMATIC DIAGRAM - LED Board -



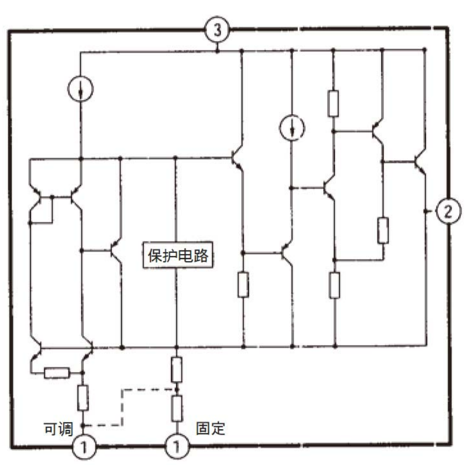
- **IC Block Diagrams**

– MAIN Board –

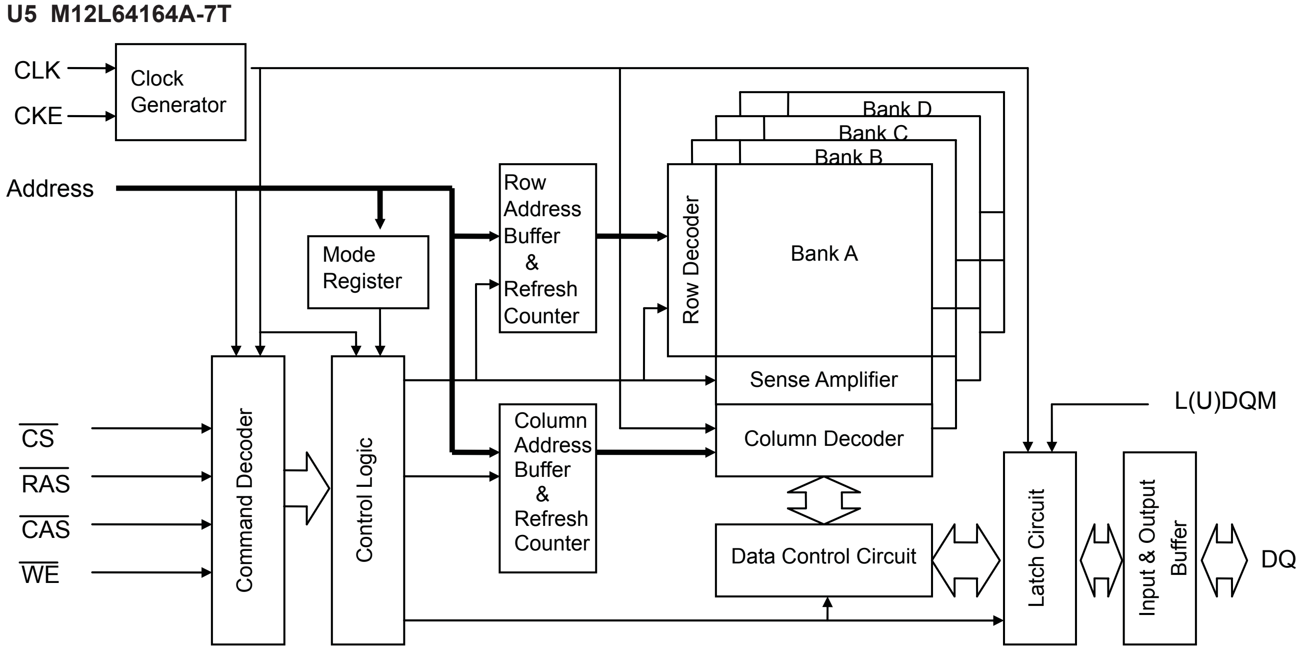
U2, 3 EUP3482ADIR1



U4 AS1117

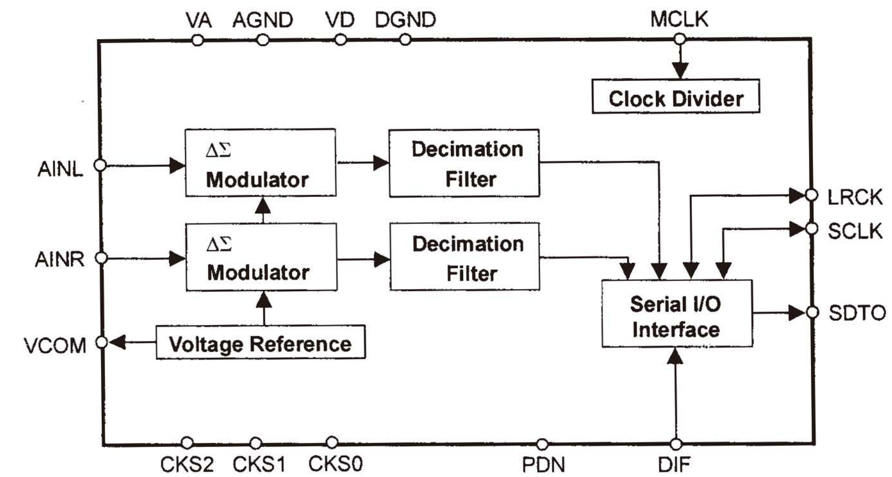


U5 M12L64164A-7T

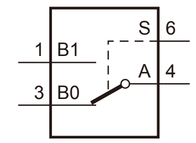


HT-CT180

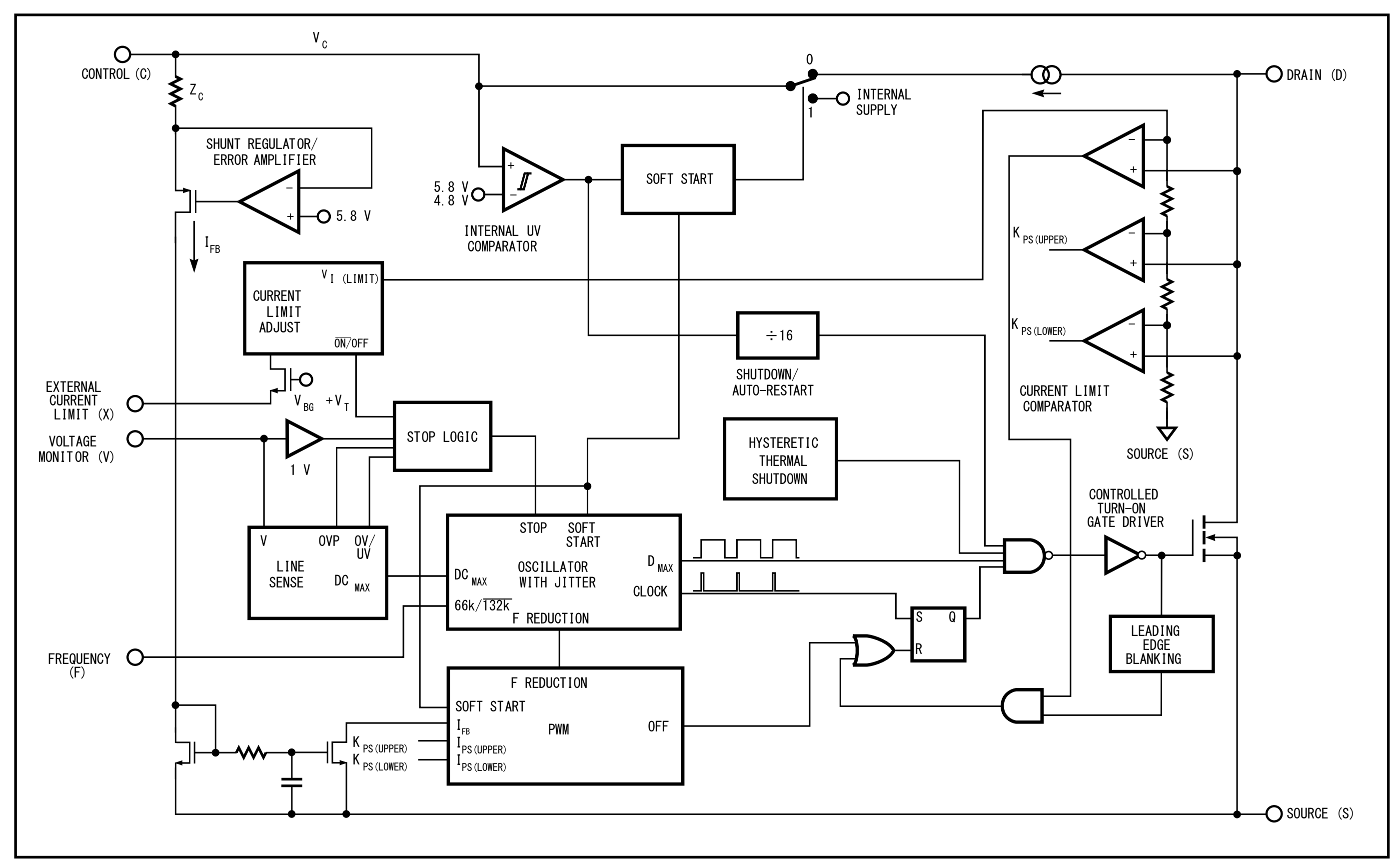
U11 AK5358A



U21, 22 74LVC1G3157GV



U531 TOP256EN



• **IC Pin Function Description**

MAIN BOARD U6 MT8301_OQE (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	AVDD12_2	-	Power supply terminal (+1.2V)
2	AVDD33_1	-	Power supply terminal (+3.3V)
3	XTALI	I	System clock input terminal (27 MHz)
4	XTALO	O	System clock output terminal (27 MHz)
5	V14	I	Reference voltage (+1.4V) input terminal
6	GPO5	O	LED drive signal output terminal (for analog indicator)
7	AVDD33_2	-	Power supply terminal (+3.3V)
8, 9	NC	-	Not used
10	GPIO2	I	Power control signal input terminal
11	USB_DP	I/O	Two-way USB data (+) bus terminal Not used
12	USB_DM	I/O	Two-way USB data (–) bus terminal Not used
13	VDD33_USB	-	Power supply terminal (+3.3V)
14	PAD_VRT	I	USB generating reference current input terminal
15	VDD12_USB	-	Power supply terminal (+1.2V)
16	DV_Y2	I	Volume (–) key input terminal
17	DV_Y3	I	SPDIF signal input terminal (for optical)
18	DV_Y4	I	Volume (+) key input terminal
19	SF_CS	O	Chip select signal output terminal (for serial flash)
20	SF_DO	O	Data output terminal (for serial flash)
21	SF_DI	I	Data input terminal (for serial flash)
22	DVDD33	-	Power supply terminal (+3.3V)
23	SF_CK	O	Clock signal output terminal (for serial flash)
24	UP1_6/SCL	O	LED drive signal output terminal (for Bluetooth indicator)
25	UP1_7/SDA	O	LED drive signal output terminal (for Bluetooth indicator)
26	GPIO11	I	Serial data input terminal (for DSP)
27	GPIO6	O	Serial data output terminal (for DSP)
28	PRST_	I	Reset signal input terminal “L”: reset
29	IR_	I	IR control signal input terminal
30	GPIO3/INT_	I	Interrupt request signal input terminal (for NFC)
31	GPIO4	I	Input key input terminal
32	DV_C0	I	Power key input terminal
33	DV_C1	O	Reset signal output terminal (for Bluetooth)
34	DV_C2	I	Status signal input terminal (for Bluetooth)
35	DV_C3	O	Power control signal output terminal (for Bluetooth)
36	SD_MS_D2	I	Audio enable signal input terminal (for Bluetooth)
37	SD_MS_D3	O	Reset signal output terminal (for AMP)
38	GPIO13	I	Status signal input terminal (for Bluetooth)
39	GPIO9	O	FN signal output terminal (for Bluetooth)
40	GPIO8	O	Audio selection signal output terminal
41	GPIO7/CKE_	I/O	Not used
42	DVDD33	-	Power supply terminal (+3.3V)
43 to 50	RD0 to RD7	I/O	Two-way data bus terminal (for SDRAM)
51	DQM0	O	Data mask signal output terminal (for SDRAM)
52, 53	RD15, RD14	I/O	Two-way data bus terminal (for SDRAM)
54	DVDD12	-	Power supply terminal (+1.2V)
55 to 60	RD13 to RD8	I/O	Two-way data bus terminal (for SDRAM)
61	DQM1	O	Data mask signal output terminal (for SDRAM)
62	RCLK	O	Clock signal output terminal (for SDRAM)
63 to 66	RA11, RA9 to RA7	O	Address signal output terminal (for SDRAM)
67	DVDD33	-	Power supply terminal (+3.3V)
68 to 70	RA6 to RA4	O	Address signal output terminal (for SDRAM)
71	RWE_	O	Write enable signal output terminal (for SDRAM)
72	CAS_	O	Column address strobe signal output terminal (for SDRAM)
73	RAS_	O	Row address strobe signal output terminal (for SDRAM)
74	DVDD33	-	Power supply terminal (+3.3V)
75, 76	BA0, BA1	O	Bank address signal output terminal (for SDRAM)

Pin No.	Pin Name	I/O	Description
77 to 81	RA10, RA0 to RA3	O	Address signal output terminal (for SDRAM)
82	DVDD12	-	Power supply terminal (+1.2V)
83	SPDIF/GPIO12	O	Power on/off control signal output terminal
84	GPIO10/HPLG	I	Bluetooth pairing key input terminal
85	EXT_RES	I	External resistor connection terminal
86	AVDD33_12	-	Power supply terminal (+3.3V)
87	TXCN	O	TMDS clock (negative) signal output terminal Not used
88	TXCP	O	TMDS clock (positive) signal output terminal Not used
89	AVDD12_C	-	Power supply terminal (+1.2V)
90	TX0N	O	TMDS data (negative) output terminal Not used
91	TX0P	O	TMDS data (positive) output terminal Not used
92	AVSS12	-	Ground terminal
93	TX1N	O	TMDS data (negative) output terminal Not used
94	TX1P	O	TMDS data (positive) output terminal Not used
95	AVDD12_D	-	Power supply terminal (+1.2V)
96	TX2N	O	TMDS data (negative) output terminal Not used
97	TX2P	O	TMDS data (positive) output terminal Not used
98	GPIO29	O	LED drive signal output terminal (for surround indicator)
99	GPIO30	O	Serial data output terminal (for AMP)
100	GPIO31	O	Clock signal output terminal (for AMP)
101	GPIO32	I	Fault signal input terminal (for AMP)
102	GPIO33	I/O	Not used
103	AVDD33	-	Power supply terminal (+3.3V)
104	VREF/GPIO14	O	Muting signal output terminal (for AMP)
105	FS	I	Full scale adjustment terminal
106	NC	-	Not used
107, 108	AVDD33, AGND12	-	Power supply terminal (+3.3V)
109, 110	NC	-	Not used
111	AKIN2/GPIO19	I	Audio data input terminal
112	ADVCM/GPIO20	O	LED drive signal output terminal (for clear audio+ indicator)
113	AKIN1/GPIO21	O	LED drive signal output terminal (for optical indicator)
114	AADVDD	-	Power supply terminal (+3.3V)
115	APLLVDD_GPIO/ GPIO34	O	Clock signal output terminal (for subwoofer)
116	APLLCAP/GPIO35	O	Serial data output terminal (for subwoofer)
117	ADACVSS	-	Ground terminal
118	LFE/GPIO	O	Master clock signal output terminal
119	ABCK	I	Bit clock signal input terminal (for DAC)
120	AR/GPIO0	O	Audio data (subwoofer) output terminal (for AMP)
121	AVCM	I	Reference voltage input terminal (for DAC)
122	AL/GPIO	I	I2C busy signal input terminal (for subwoofer)
123	ALRCK	I	L/R sampling clock signal input terminal (for DAC)
124	ASDATA0	O	Audio data (L-ch/R-ch) output terminal (for AMP)
125, 126	ADACVDD1, ADACVDD2	-	Power supply terminal (+3.3V)
127	AVDD12	-	Power supply terminal (+1.2V)
128	NC	-	Not used
129	E-PAD/GND	-	Ground terminal

MAIN BOARD U14 STA339BW (DIGITAL AMP)

Pin No.	Pin Name	I/O	Description
1	GND_SUB	-	Ground terminal
2	SA	I	I2C select address signal input terminal Fixed at “L” in this unit
3	TEST_MODE	I	Fixed at “L” in this unit
4	VSS	I/O	Internal reference voltage (–3.3V) input/output terminal
5	VCC_REG	I/O	Internal reference voltage input/output terminal
6	OUT2B	O	Audio signal (R-ch) output terminal
7	GND2	-	Ground terminal
8	VCC2	-	Power supply terminal
9	OUT2A	O	Audio signal (R-ch) output terminal
10	OUT1B	O	Audio signal (L-ch) output terminal
11	VCC1	-	Power supply terminal
12	GND1	-	Ground terminal
13	OUT1A	O	Audio signal (L-ch) output terminal
14	GND_REG	-	Internal reference ground terminal
15	VDD	I	Internal reference voltage (+3.3V) input terminal
16	CONFIG	I	Parallel mode command signal input terminal Fixed at “L” in this unit
17	OUT3B/FFX3B	O	Not used
18	OUT3A/FFX3A	O	Not used
19	EPAD/OUT4B	O	Not used
20	TWARN/OUT4A	I/O	Not used
21	VDD_DIG	-	Power supply terminal (+3.3V)
22	GND_DIG	-	Ground terminal
23	PWRDN	I	Muting signal input terminal
24	VDD_PLL	-	Power supply terminal (+3.3V) (for PLL)
25	FILTER_PLL	I	Connection to PLL filter terminal
26	GND_PLL	-	Ground terminal (for PLL)
27	XTI	I	Master clock signal input terminal
28	BICKI	I	Bit clock signal input terminal
29	LRCKI	I	L/R sampling clock signal input terminal
30	SDI	I	Audio data (L-ch/R-ch) input terminal
31	RESET	I	Reset signal input terminal
32	INT_LINE	O	Fault signal output terminal
33	SDA	I	Serial data input terminal
34	SCL	I	Clock signal input terminal
35	GND_DIG	-	Ground terminal
36	VDD_DIG	-	Power supply terminal (+3.3V)
37	GND	-	Ground terminal

SECTION 5
EXPLODED VIEWS

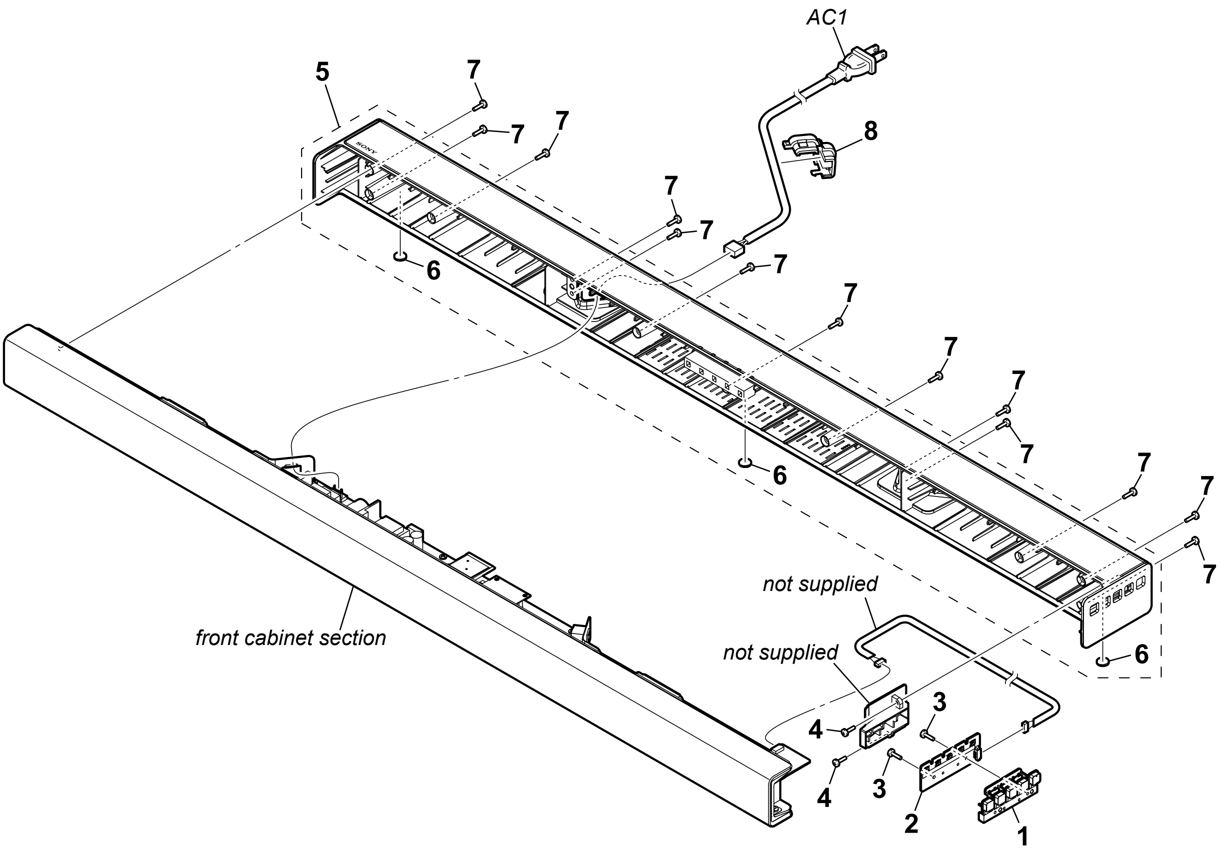
Note:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts Color ↑ Cabinet's Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

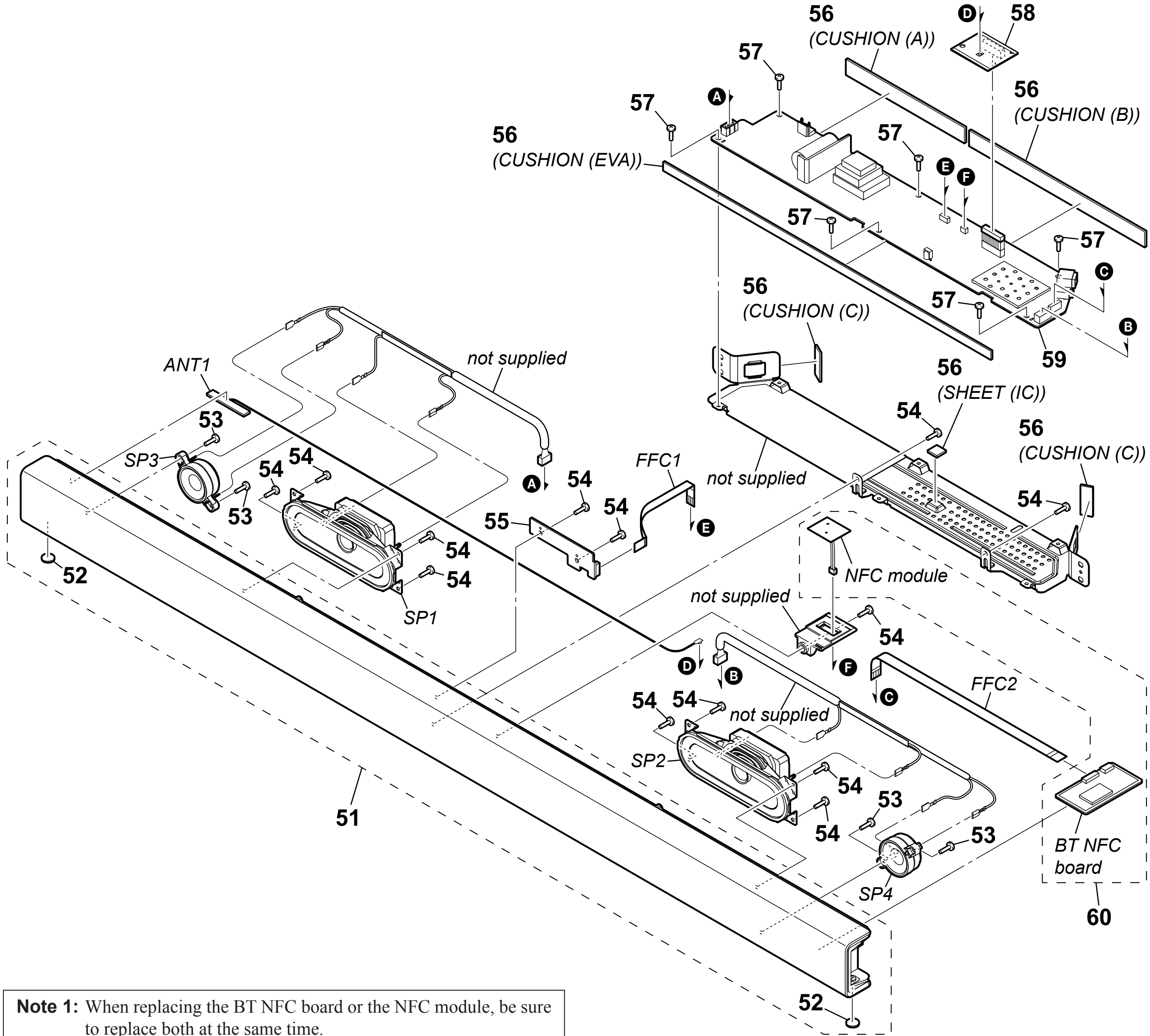
5-1. REAR CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	4-564-845-01	KEY (I/⏻, INPUT, ✱ PAIRING, − VOL, + VOL)	
2	9-885-199-20	KEY BOARD, COMPLETE (Including Cushion)	
3	4-566-000-01	SCREW (2.6X6 S)	
4	4-565-998-01	SCREW (3X8 S)	
5	X-2591-065-1	REAR CABINET ASSY	
6	4-564-837-01	FOOT CUSHION	

Ref. No.	Part No.	Description	Remark
7	4-565-999-01	SCREW (3X10 B)	
⚠ 8	4-472-176-01	CORD BUSH	
⚠ AC1	9-885-199-69	AC CORD U (US, CND)	
⚠ AC1	9-885-199-70	AC CORD EURO (AEP)	
⚠ AC1	9-885-199-71	AC CORD 13A (UK)	
⚠ AC1	9-885-199-73	AC CORD AU (AUS)	

5-2. FRONT CABINET SECTION



Note 1: When replacing the BT NFC board or the NFC module, be sure to replace both at the same time.
The BT NFC board or the NFC module cannot replace with single.

Note 2: Ref. No. 56 is a part that bundles the cushions necessary when replacing the MAIN board.
Select cushions that are the same as the cushions installed on the MAIN board before replacement, and then affix them to the MAIN board.

CUSHION (EVA)	: 1 piece, size 350 mm x 8 mm
SHEET (IC)	: 1 piece, size 10 mm x 10 mm
CUSHION (A)	: 1 piece, size 126 mm x 13 mm
CUSHION (B)	: 1 piece, size 183 mm x 15 mm
CUSHION (C)	: 2 pieces, size 32 mm x 10 mm

Note 3: When WIRELESS board is replaced, refer to “NOTE OF RE-PLACING THE WIRELESS BOARD” on page 5.

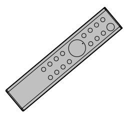
Ref. No.	Part No.	Description	Remark
51	X-2591-064-1	FRONT CABINET ASSY	
52	4-564-837-01	FOOT CUSHION	
53	4-565-989-01	SCREW (2.6X8 S)	
54	4-565-998-01	SCREW (3X8 S)	
55	9-885-199-12	LED BOARD, COMPLETE	
56	A-2070-034-A	SERVICE (FOR MAIN PWB) (Cushions, 1 set) (See Note 2)	
57	4-565-990-01	SCREW (3X6 B)	
58	9-885-199-14	WIRELESS BOARD, COMPLETE (Including Cushion) (See Note 3)	
59	9-885-199-10	MAIN BOARD, COMPLETE (US, CND)	
59	9-885-201-21	MAIN BOARD, COMPLETE (AEP, UK, AUS)	

Ref. No.	Part No.	Description	Remark
60	9-885-199-13	BT NFC BOARD, COMPLETE (Including NFC module, Cushion, Double sided tape) (See Note 1)	
ANT1	9-885-199-11	ANTENNA (Including Wire, Double sided tape)	
FFC1	9-885-199-22	FFC 10P/0.5/M-LED (Including Cushion)	
FFC2	9-885-199-21	FFC 22P/0.5/M-BT (Including Cushion)	
SP1	9-885-199-93	LOUDSPEAKER (4.3X12 cm) (Including Cushion) (Woofer: L-ch)	
SP2	9-885-199-93	LOUDSPEAKER (4.3X12 cm) (Including Cushion) (Woofer: R-ch)	
SP3	9-885-199-65	LOUDSPEAKER (1.4X2.5 cm) (Tweeter: L-ch)	
SP4	9-885-199-65	LOUDSPEAKER (1.4X2.5 cm) (Tweeter: R-ch)	

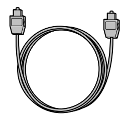
SECTION 6
ACCESSORIES

Ref. No.	Part No.	Description	Remark
	4-559-026-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH) (US, CND)	
	4-559-026-21	MANUAL, INSTRUCTION (ENGLISH) (UK, AUS)	
	4-559-026-31	MANUAL, INSTRUCTION (FRENCH, SPANISH, DUTCH) (AEP)	
	4-559-026-41	MANUAL, INSTRUCTION (GERMAN, POLISH, ITALIAN) (AEP)	
	4-569-356-11	MANUAL, INSTRUCTION (SWEDISH) (AEP)	
	4-569-356-21	MANUAL, INSTRUCTION (DANISH, FINNISH) (AEP)	
	4-569-356-31	MANUAL, INSTRUCTION (PORTUGUESE) (AEP)	
	4-569-356-41	MANUAL, INSTRUCTION (GREEK) (AEP)	
	4-569-356-51	MANUAL, INSTRUCTION (CZECH, HUNGARIAN) (AEP)	
	4-569-356-61	MANUAL, INSTRUCTION (TURKISH) (AEP)	
	4-569-356-71	MANUAL, INSTRUCTION (SLOVAK) (AEP)	
	4-569-356-81	MANUAL, INSTRUCTION (ESTONIAN) (AEP)	
	4-569-356-91	MANUAL, INSTRUCTION (ROMANIAN) (AEP)	
501	1-492-930-11	REMOTE COMMANDER (RMT-AH100U) (Remote control)	
502	1-783-327-61	CABLE, LIGHT PLUG (Optical digital cable)	
503	4-564-836-01	FOOT SET (Speaker pads for the subwoofer) (4 pieces, 1 set)	

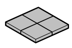
501
Remote control (1)



502
Optical digital cable (1)



503
Speaker pads for the subwoofer (4)



MEMO

REVISION HISTORY

Ver.	Date	Description of Revision
1.0	2015.02	New